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ABSTRACT

Selected demographic variables, Nelson-Denny Reading Test Scores, and grades were obtained to establish a profile of Miami-Dade Community College's Learning Support Center's (LSC's) reading and English students and to evaluate the LSC's courses in terms of student outcomes. The study of 6,108 students enrolled in LSC's English 179 and Reading 179 from 1974 through 1976 showed that: (1) the proportion of male students declined over the three-year period, though the proportions of male and female students did not depart greatly from a 50-50 balance; (2) the mean age of students ranged from 21.3 to 25.3; (3) the proportion of white students ranged from 59.3% to 40.1%; (4) while the proportion of white students decreased, the proportion of black students increased; (5) the proportion of students reading at grade level 9.9 and below increased in the 1976 academic year, while the proportion reading at the 13.0 grade level and above decreased slightly; (6) student pre-test scores on the Nelson-Denny Reading Test had some predictive validity for subsequent grade point averages; and (7) significant differences in pre-test scores were observed on the basis of ethnicity, with white students scoring highest. Based on the study, it was concluded that the LSC, which provides individualized, self-paced instruction within a laboratory setting, is meeting the basic skills needs of students regardless of sex, age, ethnicity, or reading level and that special efforts should be made to recruit students with low reading skills. (HB)

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A THREE-YEAR PROFILE AND EVALUATION OF THE LEARNING SUPPORT CENTER'S READING AND ENGLISH COURSES

1974 - 1976

Miami-Dade Community College, South Campus

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JC 810 420

by

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September 1978

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INTRODUCTION

Miami-Dade Community College is an open-door institution of post-secondary education. The open door policy admits any adult who can profit from college offerings regardless of previous academic performance.

Miami-Dade Community College, South, in order to meet the diverse educational needs of these entering students, developed the Division of Learning Support Services in the Spring of 1974. The purpose of this new division was to provide any student registered at the college with academic assistance in the basic skills of reading, writing, and/or math in the Learning Support Center.

Description of the Program

At the beginning of every semester, all incoming freshmen who register for the freshman composition course, English 120, are administered the Nelson-Denny, Form C, Reading Test, by the testing department. At the time of testing, an effort is made to free the student from any fear he may have of the examination. The student is assured that no predetermined test score has been established as a cut-off point and that, consequently, a student can neither fail nor pass the test. The purpose of the reading test is to inform the student of his percentile rank and grade placement in vocabulary, comprehension and in the total reading score. At the time of the pretest, no effort is made to establish the individual's reading rate.

The tests are machine scored, and the results of the test are returned to the student by the staff of the Learning Support Center. These scores are returned on an individual basis, and the instructors interpret the individual's percentile rank and grade placement achieved on the test. At the time the test results are returned, the services of the Learning Support Center (LSC) and its method of instruction are explained to the student. The student is free, regardless of the test score, to decide if he will avail himself of this academic assistance. Registration in the Learning Support Center is voluntary.

The student who registers in the LSC may take reading, writing, and/or math. The student who registers for writing or math is additionally pretested in these disciplines in order to establish a level of instruciton. The test given to the student in writing or math is within the reading range of the student as indicated by the Nelson-Denny, Form C, Reading Test.

The reading level of the students who register in the LSC range from -6.0 to 15.0+ grade levels. The student who reads below grade level registers in the LSC to receive the academic assistance needed to survive at Miami-Dade Community College, South Campus. The student who reads at grade level, or above, registers in the LSC to perfect these skills conducive to academic aspirations for the future. This wide range of ability provides the LSC with a heterogeneous student population that makes the LSC a developmental program and relieves students enrolling in the LSC of any stigma that might be attached to a remedial program.

The instruction in the LSC is completely individualized and based on prescription programming. A program is written for each

student in the discipline for which he registers and on the level determined by the results of the pretest. Each discipline has a complete set of course objectives. The student who registers in the LSC need not complete all the course objectives offered in a single discipline by the Learning Support Center. The student and the instructor mutually decide the objectives the student will complete during the program based on the student's academic needs as indicated by the results of the pretest. At the completion of each objective, a criterion-referenced test is administered to the student on that objective. The number of objectives the student is required to complete depends upon the number of credits for which the student has registered and the quality of the final grade he hopes to receive.

The Learning Support Center offers variable credit which means that a student may register for one, two, or three credits over a fifteen-week period of time. The student, in deciding the number of credits he will take, obligates himself to a time requirement. A student who registers for one credit in the LSC is required to spend twelve hours and thirty minutes on his program in the lab. Two credits require twenty-five hours of work in the LSC, and three credits require thirty-seven hours and thirty minutes of work in the Learning Support Center. The same time requirement is placed on a student in the LSC as in a traditional classroom. A student who does not complete the time requirements for a specific number of credits receives an incomplete as his final grade. The student may return the next semester and complete the program. The grading policy of the LSC is distributed to the student, and the student at the initial conference with his instructor decides the grade for which he will work.

The basic skills program in the LSC is completely nonscheduled. The lab is open from 8:00 A.M. to 10:00 P.M., Monday through Thursday, and from 8:00 A.M. to 6:00 P.M. on Fridays. The student, because of a specially designed time card and a computerized attendance record, can work on his program any time during these hours and any day of the week. The only time the student must report to the LSC at a specific time and date is for his weekly conference with his instructor. These mandatory conferences discuss the student's progress and allow additions to be made to the student's prescription program.

The student on entering the lab "clocks in" and writes his name and student number on the time card. All the material in the LSC has a computer code attached to it. The code indicates the title and the reading range of the material. The student records on the time card the computer code attached to the material he uses while in the lab. The student exiting from the lab "clock out" and deposits his card next to the time clock. Each morning these cards are taken to keypunch by a student assistant; and once a week computer services supplies the LSC with a printout that records attendance, length of time spent in the lab and materials used by students who "clocked in" the LSC the previous week. The cummulative time recorded by each student's name informs the student once a week of the number of hours he has accumulated toward the time commitment he made when selecting the number of credits for which he registered. This same printout provides the staff with a list of the total lab population and the date they last "clocked in" at the LSC. When a student has not been to the lab for two weeks, a letter is sent to the student reminding him of his obligation. This letter may surprise the student who

confuses nonscheduled with nonstructured. The LSC offers a nonscheduled learning environment, but the learning process in the lab is highly structured. This structure offers flexibility to the program and at the same time insures accountability to the student and to the administration at Miami-Dade, South Campus.

The individuality within the structure is further enhanced by continuous registration. The student is told at the time of receiving his test score that, regardless of grade placement on the reading test, enrollment in the LSC is voluntary. It is impressed on the student at this time that should he decide not to register in the lab now, but later finds a need for this academic assistance, he may return anytime up to the last three weeks of the term, register, receive the help he needs, and credit for the work he accomplishes. Continuous registration is an important part of the educational program offered in the Learning Support Center. Continuous registration allows the student to make the wrong decision at the beginning of the semester, but provides for academic assistance when the student realizes he needs it. Voluntary enrollment in the Learning Support Center, regardless of the grade placement achieved on the pretest, puts the responsibility of seeking academic assistance on the student. Few incoming freshmen can anticipate the class requirements that will be assigned as the semester advances. It would be unfair and would dilute the effectiveness of the program if the student had only one chance each semester to avail himself of this academic support.

Self-paced progression is an important part of any individualized approach to education. The student must be free to progress at his own rate and on a level of instruction that is free of frustration.

As previously stated, the student who registers in the basic skills program in the Learning Support Center must complete a certain number of course objectives and spend a specific number of hours on the program in order to receive a final passing grade and credit for the course. Both the completion of the objectives and the completion of the time requirement are left to the discretion of the student. The progress of the student is assessed each week by the instructor, but no pressure is placed on the student to complete the program by a particular calendar date. The emphasis in the Learning Support Center is on learning and not on time. The student may finish his program as quickly or as slowly as he desires. A student who does not complete his program during a fifteen-week semester, simply re-registers for the course, pays his tuition and continues his program the next semester.

It is important to differentiate between the final grade received in the LSC and the amount of credit acquired. The number of objectives to be completed in the program is based on the number of credits the student has chosen to receive. When the student decides that he has mastered the content of an objective, he requests the criterion-reference test appropriate to that objective. If the student passes the test, he is credited with the completion of that objective and proceeds to another objective or another level of performance. The quality of the student's work in completing the objectives and the academic progress he makes determines the student's final grade in the LSC. The number of hours spent in the lab on the program decides the number of credits the student will receive from the LSC. The Learning Support Center places on the student a minimum level of performance and a minimum time requirement for successfully

completing the basic skills program, but beyond this it is an open entrance/open exit learning experience which allows the student to advance as far as it is possible for him to go.

The multilevel-multimedia materials in the LSC enable the student to advance at his own rate and on his own instructional level. The traditional textbook has been abandoned by the LSC and has been replaced with materials that span levels from first grade to advanced college work. The multilevel materials allow the student to start his program on his instructional level and assures that academic success is built into the program. The multimedia material provides the student with a variety of learning modes and offers him a choice of learning styles. The software in the LSC includes film strips, cassette tapes, workbooks, learning kits and programmed material. The hardware in the LSC includes controlled readers, tachistoscopes, language masters, reading accelerators, Systems 80 and Dukane film strip cassette projectors. All of this material is attractively displayed in open shelves in the LSC to resemble a supermarket. The student is free to handle, examine and use any type of material that may attract his attention.

The instructors in the Learning Support Center are learning facilitators rather than classroom instructors. They are hired with the understanding that their role in the lab will be a radical departure from the position held by most college educators. They meet with their students once a week in an individual conference at which course objectives are mutually determined, the student's progress is discussed and the student's prescription program is extended to include new skills and new materials. Much of the work in the LSC,

because it has been indivually prescribed, can be completed by the student, independently of the instructor. An instructor, however, is always available in the lab to assist any student who needs help.

As stated above, the curriculum in the LSC consists of reading, writing and math. This study, however, covers only the disciplines of reading and writing, since math was not part of the curriculum in 1974. Math was not introduced into the basic skills program of the Learning Support Center until the Fall Term 1976. Statistics on math, comparable to those in this study, have been kept since 1976 and will be published in a separate report.

Statment Of The Problem

The purpose of this study was to describe the demographic characteristics of the Learning Support Center student population who were enrolled in reading 179 and English 179 courses during the three-year period, 1974 through 1976. In addition to the description of the population, null hypotheses were established to determine relationships or differences between or among specified variables.

Distributions And Hypotheses

Descriptive data characterizing the Learning Support Center's reading and English students are presented in this study by the following distributions.

1. Distribution of LSC students by sex.
2. Distribution of LSC students by age.
3. Distribution of LSC students by enrollment status.
4. Distribution of LSC students by ethnicity.
5. Distribution of LSC students by Nelson-Denny pretest grade-level equivalency scores.
6. Distribution of LSC students by Nelson-Denny vocabulary, comprehension, and total mean scores.

The following null hypotheses were tested.

1. H_o LSC students' Nelson-Denny pretest grade-level equivalency scores are independent of ethnic classification.
2. H_o There is no difference among the three major ethnic groups--White Americans, Black Americans and Hispanics--as measured by the Nelson-Denny mean pretest total scores.

3. H_o There is no difference between contrasted groups as measured by the Nelson-Denny mean pretest total scores: White Americans contrasted with Black Americans, White Americans contrasted with Hispanics, Black Americans contrasted with Hispanics.
4. H_o There is no relationship between cumulative grade-point averages and Nelson-Denny pretest vocabulary, comprehension, and total scores for students who have earned 12 or more credits.
5. H_o LSC reading grades are independent of Nelson-Denny pretest total grade-level equivalency scores.
6. H_o LSC English grades are independent of Nelson-Denny pretest total grade-level equivalency scores.
7. H_o LSC reading grade group (completed-withdrew) is independent of students' sex.
8. H_o LSC reading grade group (completed-withdrew) is independent of students' age classification.
9. H_o LSC reading grade group (completed-withdrew)is independent of students' enrollment status classification.
10. H_o LSC reading grade group (completed-withdrew) is independent of students' ethnic classification.
11. H_o LSC reading grade group (completed withdrew) is independent of students' Nelson-Denny pretest total grade-level equivalency scores.
12. H_o LSC reading students' Nelson-Denny total change scores are independent of ethnic classification.
13. H_o There is no difference among the three major ethnic groups--White Americans, Black Americans, and Hispanics--as measured by the reading students' Nelson-Denny mean change scores.

14. H_o There is no difference between contrasted groups as measured by the Nelson-Denny mean change scores: White Americans contrasted with Black Americans, White Americans contrasted with Hispanics, Black Americans contrasted with Hispanics.

15. H_o There is no difference between LSC reading students' Nelson-Denny mean pretest vocabulary, comprehension and total scores and the students' mean posttest vocabulary, comprehension and total scores.

The .05 level of significance was used to test all hypotheses.

Data Limitations

The data included in this report are limited to the population of students enrolled in the Learning Support Center's Reading 179 and English 179 courses during the three-year interval 1974 through 1976 and who had Nelson-Denny Reading Test scores available in the research office. The total number of students reported in the tables may vary from table to table as a result of demographic data missing from the Student Master Record file, students who recorded an incorrect student number on the Nelson-Denny Test score card, and those for whom no test score was located. Students who scored zero or had no Nelson-Denny pretest scores were removed from tables which involve Nelson-Denny scores. Grade tables include students with zero or no available Nelson-Denny pretest scores.

The data presented are descriptive of the students enrolled in the Learning Support Center and are not compared with non-Learning Support Center students throughout the college. The data included in Table 9 are an exception because all the students, both LSC and non-LSC, who were tested by the Nelson-Denny Reading Test were included

in the computation for the Pearson product-moment correlation coefficients.

Caution should be used in the interpretation of chi-square tests where the expected frequencies in the cells are small. (Siegel, 1956, p. 178).

Homogeneity of variances have been assumed for orthogonal contrasts when the probability level on the Bartlett - Box F test exceeded .05 (Nie, N. H. and others, 1975, p. 426).

Method And Procedures

Selection Of The Subjects

The subjects in this study were restricted to students enrolled in the Learning Support Center's reading and English courses during the 1974, 1975, and 1976 academic years and/or had Nelson-Denny Reading pretest and posttest scores on file in the South Campus research office.

Instrumentation

The Nelson-Denny Reading Test is composed of two components: the vocabulary test which consists of 100 items with administration time of ten minutes and a comprehension reading test which requires 20 minutes for the administration. The maximum raw score for the vocabulary test is 100 and the maximum raw score of the comprehension test is 36. The total score is derived by doubling the score of the comprehension items and adding this score to the vocabulary score. (Brown, 1976, p. 31).

Scores in this report reflect the 13th grade-level norms. The derived scores for the grade-level equivalency scores may range from the 6.0 grade level and below to the 15.0 grade level and above.

Data Collection And Processing

The South Campus research office collected Nelson-Denny Reading pretest (Form C) scores beginning in the Fall term of 1974 for students enrolled in English 120 classes and selected Secretarial Science courses. Beginning with the Winter term, 1975-2, the office collected Nelson-Denny posttest (Form D) scores for the students enrolled in the reading 179 courses.

Since this study is restricted to students enrolled in the Learning Support Center, grades for the reading 179 and English 179 courses were

obtained from the Learning Support Center and demographic data related to these students were obtained from the Student Master Record computer files. The restricted population was expanded to include a correlation of cummulative grade-point averages for all students with Nelson-Denny pretest scores.

Selected tests were performed on these data using computer programs from the Statistical Package for the Social Sciences (Nie, N. H. and others, 1975).

Research Design

Selected demographic variables, Nelson-Denny Reading test scores and grades were obtained to establish a profile of the Learning Support Center's reading and English students for the three-year period, 1974 through 1976. These characteristics are shown in distribution tables numbers 1 through 6 contained in this study.

Null hypotheses were formulated and are included in the section of this report entitled "Distributions and Hypotheses".

Chi-square tests were used to test hypotheses 1, 5, 6, 7, 8, 9, 10, 11, and 12. Hypotheses 2 and 13 were tested by using one-way analyses of variances and were followed by orthogonal comparisons to test hypotheses 3 and 14. The t test was applied to hypothesis 15 and the Pearson product-moment correlation was used to test hypothesis number 4.

RESULTS

Sub-study 1 Based On Nelson-Denny Pretest Score Results

Beginning with the Fall 1974-1 term, the research office maintained Nelson-Denny Reading pretest scores (Form D) for students taking the test at Miami-Dade Community College, South Campus. The data included in this section of the report are based on the population of students enrolled in the Learning Support Center's English 179 and Reading 179 courses during the 1974, 1975, and 1976 academic years and who had pretest scores available in the Research office files. Demographic information was secured from the college's data-based computer records to develop a profile of students enrolled in the Learning Support Center's English and Reading courses and to determine if relationships existed between selected variables.

Distribution of LSC students by sex. The distribution of the LSC students by sex is shown in Table 1. With the exception of the Fall 1974-1 term, the proportion of male students have generally decreased and the proportion of female students has generally increased. The differences in the male-female proportions are small and seem to follow the general profile of the college population in which the females now slightly exceed the proportion of males.

Distribution of LSC students by age. Table 2 shows the distribution of LSC students by age. The 15 and 16 year-old students constituted a small percentage (less than 1% with the exception of the

Table 2

Distribution of LSC Students with Nelson-Denny Pretest Scores

by Age Categories and by Mean Age

	Age													
	15 & below		16		17		18		19		20		21	
Term	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N	%[a]
1974-1	1	.1	9	1.3	74	11.0	210	31.1	128	19.0	76	11.3	27	4.0
1974-2	0	.0	5	.8	23	3.9	101	17.1	107	18.1	85	14.4	44	7.5
1974-3	3	1.1	2	.8	9	3.4	22	8.4	48	18.3	28	10.7	19	7.3
1974-4	5	1.7	13	4.5	27	9.4	26	9.1	32	11.1	24	8.4	17	5.9
1975-1	2	.2	2	.3	46	6.7	153	22.1	133	19.2	64	9.3	44	6.4
1975-2	4	.6	7	1.0	27	4.0	116	17.2	118	17.5	80	11.9	54	8.0
1975-3	1	.3	2	.6	7	2.0	29	8.4	63	18.3	42	12.2	31	9.0
1975-4	6	2.0	7	2.4	10	3.4	21	7.1	45	15.3	35	11.9	27	9.2
1976-1	2	.2	1	.1	13	1.6	86	10.7	170	21.1	115	14.3	89	11.1
1976-2	1	.1	4	.5	10	1.2	58	6.9	164	19.5	157	18.6	94	11.2
1976-3	1	.3	-	---	5	1.3	21	5.5	60	15.7	77	20.1	36	9.4
1976-4	2	.8	1	.4	4	1.6	28	10.9	38	14.8	41	16.0	31	12.1

[a]Row percent.

Table 2 (continued)

Term	Age 22 N	22 %[a]	23 N	23 %[a]	24 N	24 %[a]	25 N	25 %[a]	26 N	26 %[a]	27 N	27 %[a]	28 N	28 %[a]
1974-1	30	4.4	9	1.3	18	2.7	7	1.0	10	1.5	8	1.2	6	0.9
1974-2	32	5.4	24	4.1	20	3.4	17	2.9	17	2.9	10	1.7	12	2.0
1974-3	13	5.0	8	3.1	8	3.1	7	2.7	10	3.8	3	1.1	9	3.4
1974-4	14	4.9	8	2.8	10	3.5	12	4.2	9	3.1	3	1.0	10	3.5
1975-1	23	3.3	22	3.2	16	2.3	14	2.0	16	2.3	14	2.0	17	2.5
1975-2	14	2.1	30	4.5	18	2.7	20	3.0	22	3.3	9	1.3	20	3.0
1975-3	15	4.3	18	5.2	10	2.9	8	2.3	13	3.8	18	5.2	6	1.7
1975-4	14	4.7	14	4.7	16	5.4	16	5.4	9	3.1	10	3.4	3	1.0
1976-1	45	5.6	40	5.0	26	3.2	22	2.7	25	3.1	18	2.2	17	2.1
1976-2	61	7.2	48	5.7	29	3.4	25	3.0	31	3.7	20	2.4	20	2.4
1976-3	25	6.5	15	3.9	12	3.1	10	2.6	14	3.7	13	3.4	18	4.7
1976-4	18	7.0	8	3.1	8	3.1	9	3.5	13	5.1	6	2.3	9	3.5

[a]Row percent.

Table 2 (continued)

Term	Age												Row total	Mean age
	29		30 - 39		40 - 49		50 - 59		60 - 69		70 or over			
	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N	
1974-1	5	.7	30	4.4	19	2.8	3	.4	1	.1	4	.6	675	21.3
1974-2	6	1.0	41	6.9	31	5.3	7	1.2	2	.3	6	1.0	590	23.7
1974-3	3	1.1	44	16.8	20	7.6	3	1.1	2	.8	1	.4	262	25.6
1974-4	8	2.8	43	15.0	23	8.0	1	.3	1	.3	1	.3	287	24.9
1975-1	8	1.2	72	10.4	38	5.5	5	.7	0	.0	2	.3	691	23.3
1975-2	15	2.2	71	10.5	36	5.3	6	.9	2	.3	4	.6	673	24.0
1975-3	5	1.4	41	11.9	27	7.8	8	2.3	-	--	1	.3	345	25.3
1975-4	6	2.0	23	7.8	26	8.8	6	2.0	-	--	1	.3	295	24.9
1976-1	18	2.2	74	9.2	32	4.0	8	1.0	2	.2	1	.1	804	23.0
1976-2	11	1.3	63	7.5	31	3.7	12	1.4	3	.4	-	---	842	23.5
1976-3	11	2.9	37	9.7	17	4.4	9	2.3	2	.5	-	---	383	24.8
1976-4	6	7.4	19	3.9	10	3.9	4	1.6	2	.8	-	---	257	23.9

[a]Row percent.

the 1974-4 and 1975-4 terms) of the total LSC population. The 17 year-old students decreased from 11% in the 1974-1 term to 1.6% in the 1976-4 term. The 18, 19 and 20 year-old students, followed by the 21 and 22 year-olds, constituted the largest overall proportions of the LSC population. While the proportion of 18 year-olds tends to be decreasing, there is no clear trend in the 19 age category, and the proportion of 20, 21 and 22 year-old students appears to be slightly increasing. The age categories from 23 through 29 remained relatively stable with slight overall increases.

The age categories for students 30 years old or older have been collapsed into ten-year intervals. On a term-by-term basis, students in the 30-39 year-old category constituted between 3.9% to 16.8% of the LSC population, the 40-49 year-old category constituted from 2.8% to 8.8% and the categories 50-59, 60-69 and 70 and over constituted from 2.3% and less for each category. When the distribution for the three-year enrollment was combined and dichotomized at age 25, twenty-five percent of the students enrolled in the LSC reading and English courses were over 25 years old.

The mean age of the students for the three-year study ranged from 21.3 (1974-1 term) to 25.3 (1975-3 term). The most frequent mean age was 23 which occurred 5 times out of the 12 semesters followed by the mean age of 24 which occurred 4 times out of 12 semesters.

Distribution of LSC students by enrollment status. Table 3 shows the distribution of LSC students by enrollment status. The college's definition of the enrollment status terminology follows:

Early Admit refers to an academically superior high school student who is less than 18 years old and who is in attendance at Miami-Dade Community College for the first time.

Table 3

Distribution of LSC Students with Nelson-Denny Pretest Scores by Enrollment Status

Term	Enrollment Status												Total
	Early admit.		First time		Transfer		Continuing		Former		High school		
	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N	%[a]	N
1974-1	6	.9	286	42.4	15	2.2	319	47.3	33	4.9	16	2.4	675
1974-2	5	.8	138	23.4	29	4.9	368	62.4	38	6.4	12	2.0	590
1974-3	4	1.5	27	10.2	5	1.9	159	60.2	10	3.8	59	22.3	264
1974-4	3	1.0	49	17.0	7	2.4	175	60.8	22	7.6	32	11.1	288
1975-1	3	.4	251	36.3	14	2.0	365	52.8	47	6.8	11	1.6	691
1975-2	4	.6	50	7.4	10	1.5	573	85.1	15	2.2	21	3.1	673
1975-3	2	.6	18	5.2	5	1.4	309	89.6	4	1.2	7	2.0	345
1975-4	0	.0	31	10.5	6	2.0	229	77.6	13	4.4	16	5.4	295
1976-1	7	.9	238	29.6	26	3.2	492	61.2	34	4.2	7	.9	804
1976-2	5	.6	168	19.9	22	2.6	592	70.2	43	5.1	13	1.5	843
1976-3	1	.3	56	14.6	11	2.9	291	76.0	17	4.4	7	1.8	383
1976-4	4	1.6	41	16.0	5	1.9	186	72.4	12	4.7	9	3.5	257

[a]Row percent.

First Time refers to a student who is 18 years old or older and who is in attendance at MDCC for the first time.

Transfer refers to a student whose last attendance was at another college or university.

Continuing refers to any student who has been in continuous enrollment more than one term or who has not missed more than four consecutive terms.

Former refers to a student who last attended Miami-Dade Community College more than four terms ago.

High School refers to a student who is concurrently enrolled in high school and who is in attendance at Miami-Dade Community College on a part-time basis.

The largest proportion of the LSC student population was classified as continuing students. The smallest proportion of continuing students (52.1%) was enrolled in the 1975-1 term and the highest proportion (89.6%) was enrolled in the 1975-3 term. When the enrollments for the twelve-term, three-year period were combined, the continuing students constituted about two-thirds of the LSC student population over this period of time.

The first time-in-college students constituted the second largest proportion of LSC students. This population ranged from 5.2% in the 1975-3 term to a high of 42.4% in the 1974-1 term. As expected, a larger proportion of first-time students enrolled in the Fall terms followed by a smaller proportion in the Winter terms with the entire category of first-time students constituting about 22% of the total LSC population over the three-year period.

All of the other categories averaged less than 5%, with the former students averaging 4.7%, the high school students averaging 3.4%, the transfer students averaging 2.5% and the early admit students averaging .7%. The proportion of students in each of these categories has remained relatively stable with the exception of the 1974-3 and 1974-4 terms when the population reached 22.3% and 11.1% respectively for the high school students.

In general, the data in Table 3 shows that approximately two-thirds of the population were classified as continuing students and less than one-fourth were classified as first-time-in-college students.

Distribution of LSC students by ethnicity. The distribution of the LSC students by ethnicity is shown in Table 4. Seven categories were identified. Among the three major categories, White Americans, Black Americans and Hispanics, the proportion of the White Americans was the largest. The proportion of White Americans has decreased from a high of 61.7% (1974-3 term) to 40.1% (1976-3 term) and the proportion of Black Americans has increased from 14.5% (1974-1 term) to 34.3% in the 1976-3 term. The proportion of Hispanic students was 21.2% (1974-1), dropped to 14.% (1975-3), and then increased to 24.7% (1976-4).

Distribution of LSC students by Nelson-Denny pretest grade-level scores. The distribution of LSC students by Nelson-Denny pretest grade-level scores is presented in Table 5. The grade-level equivalency scores have been collapsed into three groups. The proportion of students in the 9.9 and below category appears to have slightly increased in the 1976

Table 5

Distribution of LSC Students by Nelson-Denny Pretest Grade-Level Equivalency Scores

Term	Nelson-Denny Pretest Scores by Grade-Level						Row total
	9.9 & below		10.0 to 12.9		13.0 & above		
	N	%[a]	N	%[a]	N	%[a]	N
1974-1	240	35.6	220	32.6	215	31.9	675
1974-2	182	30.8	194	32.9	214	36.3	590
1974-3	84	31.8	63	23.9	117	44.3	264
1974-4	86	29.9	80	27.8	122	42.4	288
1975-1	255	36.9	200	28.9	236	34.2	691
1975-2	266	39.5	162	24.1	245	36.4	673
1975-3	120	34.8	77	22.3	148	42.9	345
1975-4	111	37.6	68	23.1	116	39.3	295
1976-1	335	41.7	231	28.7	238	29.6	804
1976-2	363	43.1	218	25.9	262	31.1	843
1976-3	171	44.6	88	23.0	124	32.4	383
1976-4	96	37.4	71	27.6	90	35.0	257

[a]Row percent.

academic year when compared to the two previous years, and the proportion of students in the 13.0 and above grade category slightly decreased during the 1976 academic year. The decrease was on an inclining basis from the Fall 1976-1 term to the Summer 1976-4 term. Over the three-year period, 37.8% of the students scored at the 9.9 grade level and below, 27.4% scored at the 10.0 to 12.9 grade level, and 34.8% scored at the 13.0 grade level and above. Just about as many high scoring students enrolled in the LSC courses as low scoring students. When the 10.0-12.9 and the 13.0 and above categories were combined, 62.2% of the LSC students scored at the 10.0 grade level or above for the three-year period.

Distribution of LSC students by Nelson-Denny pretest mean scores. Table 6 shows the mean Nelson-Denny pretest scores for the LSC student population. The maximun score for each component of the test is: vocabulary 100, comprehension 72, and total score 172. For the initial 1974-1 term the test scores for vocabulary and comprehension were not available as component scores but were recorded as total scores. The range of the vocabulary raw scores has been from 25 (1974-2 term) to 30 (1972-3 and 4 terms). The vocabulary pretest scores show a general decrease during the 1976 academic year from the previous years with the exception of the 1976-4 term. The comprehension scores showed relatively little change from year-to-year; however, the Nelson-Denny pretest total raw scores indicate a decline in the 1976 academic year from the previous years with the exception of the 1976-4 term.

Ethnicity by Nelson-Denny pretest grade-level equivalency scores. Table 7 shows the relationship between Nelson-Denny pretest grade-level equivalency scores and ethnicity for each of the 12 terms from 1974-1 to

Table 6

Distribution of LSC Students by Nelson-Denny Pretest

Mean Scores

Term	Mean pretest scores			
	Mean N-D vocabulary score	Mean N-D comprehension score	Mean N-D total score	Total number students
1974-1	N/A[a]	N/A[a]	57.3289	675
1974-2	25.1830	28.5966	60.6610	590
1974-3	30.4015	32.5379	64.1629	264
1974-4	30.1007	33.3368	64.3194	288
1975-1	25.6570	31.8538	57.5079	691
1975-2	26.3061	32.0148	58.3180	673
1975-3	27.7594	33.0638	60.8232	345
1975-4	28.1898	32.7932	60.8746	295
1976-1	24.3047	30.9826	55.2065	804
1976-2	24.2657	31.5291	55.7948	843
1976-3	24.6841	31.9948	55.6945	383
1976-4	26.6264	33.0467	59.6731	257

[a]N/A = Scores not available.

Table 7

Crosstabulation of LSC Students' Ethnicity

with Nelson-Denny Pretest Total Grade-Level

Equivalency Scores

Term 74-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	67	23.5	91	31.9	127	44.6	285	56.4
Black American	50	68.5	18	24.7	5	6.8	73	14.5
Hispanic	42	39.3	39	36.4	26	24.3	107	21.2
Oriental American	1	33.3	2	66.7	0	.0	3	.6
Immigrant Alien	11	44.0	6	24.0	8	32.0	25	5.0
Student Visa	9	75.0	3	25.0	0	.0	12	2.4
Column Total	180	35.6[a]	159	31.5[a]	166	32.9[a]	505	100.0[a]

Note. 170 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 77.910$, df = 10, $p < .001$.

Term 74-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	44	16.0	96	34.9	135	49.1	275	59.3
Black American	48	64.0	20	26.7	7	9.3	75	16.2
Hispanic	40	48.8	25	30.5	17	20.7	82	17.7
Oriental American	3	100.0	0	.0	0	.0	3	.6
Immigrant Alien	9	36.0	10	40.0	6	24.0	25	5.4
Student Visa	1	25.0	1	25.0	2	50.0	4	0.9
Column Total	145	31.3[a]	152	32.8[a]	167	36.0[a]	464	100.0[a]

Note. 126 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 97.384$, df = 10, $p < .001$.

Table 7 (continued)

Term 74-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	28	18.9	27	18.2	93	62.8	148	61.7
Black American	34	75.6	9	20.0	2	4.4	45	18.8
Hispanic	13	34.2	18	47.4	7	18.4	38	15.8
Oriental American	0	0.0	0	.0	1	100.0	1	.4
Immigrant Alien	3	42.9	2	28.6	2	28.6	7	2.9
Student Visa	1	100.0	0	.0	0	.0	1	.4
Column Total	79	32.9[a]	56	23.3[a]	105	43.8[a]	240	100.0[a]

Note. 24 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 82.722$, $df = 10$, $p < .001$.

Term 74-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	28	19.9	38	27.0	75	53.2	141	50.9
Black American	53	69.7	10	13.2	13	17.1	76	27.4
Hispanic	21	39.6	14	26.4	18	34.0	53	19.1
Oriental American	1	33.3	1	33.3	1	33.3	3	1.1
Immigrant Alien	0	.0	2	66.7	1	33.3	3	1.1
Student Visa	0	.0	1	100.0	0	.0	1	.4
Column Total	103	37.2[a]	66	23.8[a]	108	39.0[a]	277	100.0[a]

Note. 18 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 61.255$, $df = 18$, $p < .001$.

Table 7 (continued)

Term 75-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	84	23.0	113	30.9	169	46.2	366	55.6
Black American	93	71.0	29	22.1	9	6.9	131	19.9
Hispanic	55	41.4	42	31.6	36	27.1	133	20.2
American Indian	0	.0	1	100.0	0	.0	1	.2
Oriental American	3	75.0	0	.0	1	25.0	4	.6
Immigrant Alien	6	31.6	9	47.4	4	21.1	19	2.9
Student Visa	2	50.0	1	25.0	1	25.0	4	.6
Column Total	243	36.9[a]	195	29.6[a]	220	33.4[a]	658	100.0[a]

Note. 33 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 119.650$, $df = 12$, $p < .001$.

Term 75-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	84	24.1	94	26.9	171	49.0	349	54.2
Black American	100	69.9	27	18.9	16	11.2	143	22.2
Hispanic	56	47.9	29	24.8	32	27.4	117	18.2
American Indian	1	100.0	0	.0	0	.0	1	.2
Oriental American	2	40.0	0	.0	3	60.0	5	.8
Immigrant Alien	6	31.6	5	26.3	8	42.1	19	3.0
Student Visa	5	50.0	5	50.0	0	.0	10	1.6
Column Total	254	39.4[a]	160	24.8[a]	230	35.7[a]	644	100.0[a]

Note. 29 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 113.531$, $df = 12$, $p < .001$.

Table 7 (continued)

Term 75-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	34	18.0	40	21.2	115	60.8	189	57.1
Black American	58	69.0	16	19.0	10	11.9	84	25.4
Hispanic	23	47.9	13	27.1	12	25.0	48	14.5
American Indian	0	.0	1	100.0	0	.0	1	.3
Oriental American	1	50.0	1	50.0	0	.0	2	.6
Immigrant Alien	0	.0	2	33.3	4	66.7	6	1.8
Student Visa	0	.0	1	100.0	0	.0	1	.3
Column Total	116	35.0[a]	74	22.4[a]	141	42.6[a]	331	100.0[a]

Note. 14 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 95.373$, df = 12, $p < .001$.

Term 75-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	24	15.6	41	26.6	89	57.8	154	57.7
Black American	39	67.2	13	22.4	6	10.3	58	21.7
Hispanic	15	35.7	15	35.7	12	28.6	42	15.7
Immigrant Alien	4	36.4	3	27.3	4	36.4	11	4.1
Student Visa	1	50.0	0	.0	1	50.0	2	.7
Column Total	83	31.1[a]	72	27.0[a]	112	41.9[a]	267	100.0[a]

Note. 21 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 64.026$, df = 8, $p < .001$.

Table 7 (continued)

Term 76-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	93	24.9	116	31.1	164	44.0	373	48.6
Black American	150	71.4	49	23.3	11	5.2	210	27.3
Hispanic	70	41.9	56	33.5	41	24.6	167	21.7
American Indian	2	100.0	0	.0	0	.0	2	.3
Oriental American	4	50.0	0	.0	4	50.0	8	1.0
Immigrant Alien	3	37.5	1	12.5	4	50.0	8	1.0
Column Total	322	41.9[a]	222	28.9[a]	224	29.2[a]	768	100.0[a]

Note. 36 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 152.231$, $df = 10$, $p < .001$.

Term 76-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	86	21.8	117	29.7	191	48.5	394	47.8
Black American	174	71.9	52	21.5	16	6.6	242	29.3
Hispanic	95	52.5	40	22.1	46	25.4	181	21.9
American Indian	1	100.0	0	.0	0	.0	1	.1
Oriental American	1	20.0	2	40.0	2	40.0	5	.6
Immigrant Alien	1	50.0	1	50.0	0	.0	2	.2
Column Total	358	43.4[a]	212	25.7[a]	255	30.9[a]	825	100.0[a]

Note. 18 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 186.927$, $df = 18$, $p < .001$.

Table 7 (continued)

Term 76-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	29	19.1	35	23.0	88	57.9	152	40.1
Black American	101	77.7	21	16.2	8	6.2	130	34.3
Hispanic	39	42.4	30	32.6	23	25.0	92	24.3
American Indian	0	.0	0	.0	1	100.0	1	.3
Oriental American	0	.0	1	25.0	3	75.0	4	1.1
Column Total	169	44.6[a]	87	23.0[a]	123	32.5[a]	379	100.0[a]

Note. 4 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 126.28406$, df = 8, $p < .001$.

Term 76-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]	N	%[b]
White American	17	14.5	35	29.9	65	55.6	117	45.9
Black American	50	71.4	16	22.9	4	5.7	70	27.5
Hispanic	29	46.0	17	27.0	17	27.0	63	24.7
Oriental American	0	.0	1	20.0	4	80.0	5	2.0
Column Total	96	37.6[a]	69	27.1[a]	90	35.3[a]	225	100.0[a]

Note. 2 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 76.814$, df = 6, $p < .001$.

to 1976-4. The ethnic classification was not available for all of the students and is reflected in the tables as missing observations. A chi-square test was performed for each term to test the null hypothesis which holds that pretest grade-level equivalency scores were independent of ethnic classification.

In all 12 terms a larger proportion of the White American students scored at the 13.0 grade level and above with a smaller proportion of the White American students scoring at the 9.9 grade level and below. A larger proportion of the Black American students scored at the 9.9 grade level and below with a smaller proportion scoring at the 13.0 grade level and above. A larger proportion of the Hispanic students also scored at the 9.9 grade level and below with a smaller proportion scoring at the 13.0 grade level. However, the proportion of Hispanics scoring at the 9.9 level and below was smaller than the proportion of Black Americans for each term and the proportion of Hispanics scoring at 13.0 grade level and above was higher than the proportion of Black students.

The number of students in the other categories was small as compared to the total LSC population and contributed very little to the chi-square values. The null hypothesis was rejecte The alternate hypothesis that there was a significant relationship between the Nelson-Denny pretest grade-level equivalency scores and ethnicity ($p < .001$) for each of the 12 terms was accepted.

Analysis of variance and orthogonal comparisons of ethnicity with Nelson-Denny pretest total scores. A one-way analysis of variance was performed on the data by term for the three major ethnic groups (White

Americans, Black Americans and Hispanics) to test the null hypothesis that there was no significant difference among the three ethnic groups as measured by the mean Nelson-Denny pretest total scores. The criterion or dependent variable consisted of the pretest total scores and the independent variable consisted of the three major ethnic groups. The analysis of variance was followed by orthogonal comparisons to determine if contrasted groups showed a significant difference. Homogeniety of variance was not assumed and separate variance estimates were used to determine t values. Table 8 shows the results of the analysis of variance, the means, the standard deviations, standard errors, and t values and significant levels for each term. Each of the F ratios was highly significant at $p < .001$ for all of the 12 terms. The null hypothesis was rejected and the alternate hypothesis was accepted that there was a significant difference among the three ethnic groups as measured by the mean Nelson-Denny Reading Test pretest total scores.

The highest pretest total mean score (76.24) for the White American students occurred in the 1974-2 term and the lowest pretest total mean score (65.38) occurred in the 76-1 term. The highest pretest total mean score (41.49) for the Black Americans occurred in the 1974-2 term and the lowest pretest total mean score (35.31) occurred in the 1974-3 term. The Hispanics obtained their highest pretest total mean score (60.93) in the 1975-3 term and their lowest pretest total mean score (50.37) in the 1974-2 term.

Contrasts were performed on the data for each term on the three major ethnic groups: White Americans with Black Americans, White Americans with Hispanics, and Black Americans with Hispanics. The null hypothesis that there were no significant differences between contrasted groups was tested by the

Table 8

Analysis of Variance and Orthogonal Comparisons

of Ethnicity with Nelson-Denny Pretest

Total Scores

Term 74-1

ANOVA — F ratio = 37.560*

Groups	N	Means	Standard Deviation	Standard Error
White	285	64.0912	22.6229	1.3401
Black	73	40.9689	14.3153	1.6755
Hispanic	107	53.6175	21.2797	2.0572
Total	465	58.0573	22.8347	1.0589

t tests

Contrasts	t value[a]
White vs Black	10.782*
White vs. Hispanic	4.270*
Black vs. Hispanic	-4.767*

[a] t value determined by separate variance estimate.

* $p < .001$.

Term 74-2

ANOVA — F ratio = 48.164**

Groups	N	Means	Standard Deviation	Standard Error
White	275	70.0543	27.4642	1.6562
Black	75	41.4933	19.3029	2.2289
Hispanic	82	50.3658	20.5795	2.2726
Total	432	61.3588	27.6225	1.3290

t tests

Contrasts	t value[a]
White vs. Black	10.285*
White vs. Hispanic	7.002*
Black vs. Hispanic	-2.787**

[a] t value determined by separate variance estimate.

* $p < .001$.

** $p < .01$.

Table 8 (continued)

Term 74-3

ANOVA — F ratio = 47.515* — t tests

Groups	N	Means	Standard Deviation	Standard Error	Contrasts	t value[a]
White	148	74.2770	27.0665	2.2243	White vs. Black	12.197*
Black	45	35.3111	15.3797	2.2927	White vs. Hispanic	4.739*
Hispanic	38	55.8947	19.5845	3.1770	Black vs. Hispanic	-5.254*
Total						

[a] t value determined by separate variance estimate.

* p < .001.

Term 74-4

ANOVA — F ratio = 46.571* — t tests

Groups	N	Means	Standard Deviation	Standard Error	Contrasts	t value[a]
White	154	76.240	28.1292	2.2667	White vs. Black	10.694*
Black	58	40.5345	18.6690	2.4514	White vs. Hispanic	5.561*
Hispanic	42	55.0952	19.7830	3.0527	Black vs. Hispanic	-3.719*
Total	254	64.5906	29.1667	1.8301		

[a] t value determined by separate variance estimate.

* p < .001.

Table 8 (continued)

Term 75-1

ANOVA — F ratio = 64.680*

Groups	N	Means	Standard Deviation	Standard Error
White	366	65.5820	24.8777	1.3004
Black	131	39.8397	17.5774	1.5357
Hispanic	133	52.5188	21.9909	1.9068
Total	630	57.4714	25.1534	1.0021

t tests

Contrasts	t value[a]
White vs. Black	12.792*
White vs. Hispanic	5.660*
Black vs. Hispanic	-5.179*

[a] t value determined by separate variance estimate.

* $p < .001$.

Term 75-2

ANOVA — F ratio = 59.685*

Groups	N	Means	Standard Deviation	Standard Error
White	349	66.9312	26.1790	1.4013
Black	143	41.4615	18.5186	1.5486
Hispanic	117	52.0085	25.2567	2.3350
Total	609	58.0837	26.6662	1.0806

t tests

Contrasts	t value[a]
White vs. Black	12.195*
White vs. Hispanic	5.480*
Black vs. Hispanic	-3.764*

[a] t value determined by separate variance estimate.

* $p < .001$.

Table 8 (continued)

Term 75-3

ANOVA — F ratio = 76.068*

Groups	N	Means	Standard Deviation	Standard Error
White	296	76.0372	24.4265	1.4198
Black	85	42.1176	16.3680	1.7754
Hispanic	106	60.9340	23.5389	2.2863
Total	487	66.8296	26.3477	1.1939

t tests

Contrasts	t value[a]
White vs. Black	10.441*
White vs. Hispanic	4.007*
Black vs. Hispanic	-2.271**

[a] t value determined by separate variance estimate.

* p < .001.

** p < .03.

Term 75-4

ANOVA — F ratio = 32.722**

Groups	N	Means	Standard Deviation	Standard Error
White	141	71.8652	26.9851	2.2726
Black	76	44.0526	20.3075	2.3294
Hispanic	53	54.2264	25.4993	3.5026
Total	270	60.5741	27.7766	1.6904

t tests

Contrasts	t value[a]
White vs. Black	8.546*
White vs. Hispanic	4.225*
Black vs. Hispanic	-2.419**

[a] t value determined by separate variance estimate.

* p < .001.

** p < .02.

Table 8 (continued)

Term 76-1

ANOVA — F ratio = 86.173*

Groups	N	Means	Standard Deviation	Standard Error
White	373	65.3780	26.9310	1.3944
Black	210	38.9667	16.6871	1.1515
Hispanic	167	52.4850	22.5806	1.7473
Total	750	55.1120	26.0390	.9508

t tests

Contrasts	t value[a]
White vs. Black	14.605*
White vs. Hispanic	5.767*
Black vs. Hispanic	-6.460*

[a] t value determined by separate variance estimate.

* $p < .001$.

Term 76-2

ANOVA — F ratio = 104.167*

Groups	N	Means	Standard Deviation	Standard Error
White	394	67.4416	27.5021	1.3855
Black	242	40.3884	16.5496	1.0638
Hispanic	181	50.4586	22.3703	1.6628
Total				

t tests

Contrasts	t value[a]
White vs. Black	15.487*
White vs. Hispanic	7.847*
Black vs. Hispanic	-5.101*

[a] t value determined by separate variance estimate.

* $p < .001$.

Table 8 (continued)

Term 76-3

ANOVA — F ratio = 74.984*

Groups	N	Means	Standard Deviation	Standard Error
White	150	71.6382	26.5009	2.1495
Black	130	37.7923	16.1161	1.4135
Hispanic	92	53.0652	25.7919	2.6890
Total	374	55.3048	27.4457	1.4192

t tests

Contrasts	t value[a]
White vs. Black	13.156*
White vs. Hispanic	5.395*
Black vs. Hispanic	-5.028*

[a] t value determined by separate variance estimate.

* $p < .001$.

Term 76-4

ANOVA — F ratio = 42.580*

Groups	N	Means	Standard Deviation	Standard Error
White	117	72.2650	25.9960	2.4033
Black	70	40.0000	16.5249	1.9751
Hispanic	63	55.4127	24.7963	3.1240
Total	250	58.9840	27.0373	1.7100

t tests

Contrasts	t value[a]
White vs. Black	10.372*
White vs. Hispanic	4.276*
Black vs. Hispanic	-4.170*

[a] t value determined by separate variance estimate.

* $p < .001$.

use of a t test. The t values for the contrasts of White Americans showed that pretest total mean scores were significantly higher than the Black American pretest total mean scores ($p < .001$ for each of the 12 terms). The contrast between White Americans and Hispanics showed that the White Americans' pretest total mean scores were significantly higher ($p < .001$) than the Hispanics' pretest total mean scores in each of the 12 terms. The Black Americans' pretest total mean scores were significantly lower than the Hispanics' in each of the 12 terms. (p ranged from $< .001$ to $< .03$) Therefore, the null hypothesis for each of the three contrasts was rejected and the alternate hypothesis was accepted that the pretest total mean scores for each of the three contrasts were significantly different.

Correlation of LSC and non-LSC cumulative grade point averages with the Nelson-Denny pretest vocabulary, comprehension, and total scores for all students who have earned 12 or more credits. The cumulative grade point average for all students who had taken the Nelson-Denny pretest and had earned 12 or more credits was correlated with the Nelson-Denny vocabulary, comprehension and total scores. The Pearson correlation coefficients are displayed in Table 9. The null hypothesis that cumulative grade point averages were not associated with the Nelson-Denny pretest vocabulary, comprehension and total scores was rejected and it was concluded that all the correlation coefficients were significant ($p \leq .001$); therefore, the cumulative grades and test scores were associated and the observed r's differed from zero only by chance. The data required to compute the coefficients were not available for the 1974 academic year.

The coefficients for the vocabulary pretest ranged from a low of .2778

Table 9

Correlation of LSC and Non-LSC Students' Cumulative Grade Point Averages with the Nelson-Denny Pretest Vocabulary, Comprehension, and Total Scores for All Students Who Have Earned 12 or More Credits

		Pearson Correlation Coefficients		
Term	N	ND Vocabulary	ND Comprehension	ND Total
1974-1	329	N/A[a]	N/A[a]	N/A[a]
1974-2	472	N/A[a]	N/A[a]	N/A[a]
1974-3	158	N/A[a]	N/A[a]	N/A[a]
1974-4	195	N/A[a]	N/A[a]	N/A[a]
1975-1	404	.3121*	.2285*	.2976*
1975-2	858	.3325*	.3059*	.3446*
1975-3	360	.4377*	.4215*	.4689*
1975-4	259	.2978*	.2785*	.3145*
1976-1	548	.3345*	.3173*	.3511*
1976-2	626	.3830*	.3498*	.4002*
1976-3	276	.4323*	.3852*	.4471*
1976-4	153	.3616*	.3578*	.3895*

[a]Information not available on file.

*$p \leq .001$.

for the 1974-1 term to a high of .4377 for the 1975-3 term. The coefficients for the comprehension pretest ranged from a low of .2258 for the 1975-1 term to a high of .4215 for the 1975-3 term. The coefficient for the total pretest score ranged from .2976 for the 1975-1 term to a high of .4689 for the 1975-3 term.

The lowest correlation coefficient (comprehension 1975-1 term = .2258) represents a common factor variance of .0522; therefore 5% of the variance of the cumulative grade point average was shared with the variance of the Nelson-Denny pretest subscores. The highest correlation, (total score 1975-3 term = .4689), indicated that 21.98% of the variance of the cumulative grade point average was shared with the Nelson-Denny total pretest scores.

Crosstabulation of LSC reading grades with pretest grade-level equivalency scores. The LSC students' reading 179 grades were crosstabulated with the Nelson-Denny pretest total grade-level equivalency scores. Chi-square tests were performed for each term to test the null hypothesis that the two variables, reading grades and Nelson-Denny pretest total grade-level equivalency scores, were independent. The results of this crosstabulation and chi-square values are presented in Table 10. Students without pretest scores were excluded from these tables.

Six of the 12 terms showed a highly significant relationship ($p < .001$) between the pretest total grade-level equivalency scores and the grades received in the reading courses (1974-1, 1974-2, 1975-2, 1976-2, 1976-3, 1976-4). Two of the 12 terms (1975-1 and 1976-1) showed significance at less than the .01 level, and the 1975-3 term was significant at less than the .02 level. Therefore, the null hypothesis was rejected for these nine terms and the alternate

Table 10

Crosstabulation of LSC 179 Reading Grades

with Nelson-Denny Pretest Total

Grade-Level Equivalency Scores

Term 74-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	70	27.5	89	34.9	96	37.6	255	43.4
B	34	56.7	13	21.7	13	21.7	60	10.2
C	5	50.0	5	50.0	0	.0	10	1.7
Incomplete	51	38.1	52	38.8	31	23.1	134	22.8
Withdrew Course	40	38.1	31	29.5	34	32.4	105	17.9
Withdrew College	8	34.8	5	21.7	10	43.5	23	3.9
Column Total	208	35.4[a]	195	33.2[a]	184	31.3[a]	587	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 31.527$, $df = 10$, $p < .001$.

Term 74-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	38	19.3	76	38.6	83	42.1	197	40.5
B	21	35.0	23	38.3	16	26.7	60	12.3
C	9	56.3	5	31.3	2	12.5	16	3.3
Incomplete	38	46.3	21	25.6	23	28.0	82	16.8
Withdrew Course	40	34.8	33	28.7	42	36.5	115	23.6
Withdrew College	6	37.5	3	18.8	7	43.8	16	3.3
Column Total	152	31.2[a]	162	33.3[a]	173	35.5[a]	487	100.0[a]

Note. One missing observation.

[a]Row percent.

[b]Column percent.

$\chi^2 = 34.250$, $df = 12$, $p < .001$.

Table 10 (continued)

Term 74-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	17	17.3	23	23.5	58	59.2	98	47.3
B	14	46.7	4	13.3	12	40.0	30	14.5
C	2	28.6	1	14.3	4	57.1	7	3.4
D	1	100.0	0	.0	0	.0	1	.5
Incomplete	19	36.6	13	27.1	16	33.3	48	23.2
Withdrew Course	6	27.3	4	18.2	12	54.5	22	10.6
Column Total	59	28.5[a]	45	21.7[a]	103	54.5[a]	209	100.0[a]

Note. One missing observation.

[a]Row percent.

[b]Column percent.

$\chi^2 = 20.501$, df = 12, p = .0582.

Term 74-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	19	19.8	23	24.0	54	56.3	96	43.4
B	15	34.1	13	29.5	16	36.4	44	19.9
C	5	45.5	1	9.1	5	45.5	11	5.0
D	1	100.0	0	.0	0	.0	1	.5
Incomplete	13	35.1	11	29.7	13	35.1	37	16.7
Withdrew Course	8	34.8	4	17.4	11	47.8	23	10.4
Withdrew College	1	11.1	4	44.4	4	44.4	9	4.1
Column Total	62	28.2[a]	56	25.3[a]	103	46.6[a]	221	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 16.260$, df = 2, p < .1796.

Table 10 (continued)

Term 75-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	76	29.8	73	28.6	106	41.6	255	48.2
B	35	41.7	20	23.8	29	34.5	84	15.9
C	8	40.0	11	55.0	1	5.0	20	3.8
Incomplete	37	42.0	28	31.8	23	26.1	88	16.6
Withdrew Course	29	44.6	16	24.6	20	30.8	65	12.3
Withdrew College	3	17.6	7	41.2	7	41.2	17	3.2
Column Total	188	35.5[a]	155	29.3[a]	186	35.2[a]	529	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 25.085$, $df = 10$, $p < .01$.

Term 75-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	52	25.0	60	28.8	96	46.2	208	44.1
B	40	55.6	13	18.1	19	26.4	72	15.3
C	12	40.0	10	33.3	8	26.7	30	6.4
Incomplete	43	48.3	18	20.2	28	31.5	89	18.9
Withdrew Course	22	44.9	11	22.4	16	32.7	49	10.4
Withdrew College	12	50.0	8	33.3	4	16.7	24	5.1
Column Total	181	38.3[a]	120	25.4[a]	171	36.2[a]	472	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 34.250$, $df = 12$, $p < .001$.

Table 10 (continued)

Term 75-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	33	27.0	37	30.3	52	42.6	122	54.2
B	18	48.6	8	21.6	11	29.7	37	16.4
C	6	66.7	3	33.3	0	.0	9	4.0
Incomplete	15	48.4	2	6.5	14	45.2	31	13.8
Withdrew Course	5	23.8	5	23.8	11	52.4	21	9.3
Withdrew College	1	20.1	2	40.0	2	40.0	5	2.3
Column Total	78	34.7[a]	57	25.3[a]	90	40.0[a]	225	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 21.728$, $df = 10$, $p < .02$.

Term 75-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	32	32.3	22	22.2	45	45.5	99	49.0
B	19	35.8	15	28.3	19	35.8	53	26.2
C	5	50.0	2	20.0	3	30.0	10	5.0
Incomplete	8	36.4	5	22.7	9	40.9	22	10.9
Withdrew Course	6	37.5	5	31.3	5	31.3	16	7.9
Withdrew College	0	.0	1	50.0	1	50.0	2	1.0
Column Total	70	34.7[a]	50	24.8[a]	82	40.6[a]	202	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 4.582$, $df = 10$, $p = .9173$.

Table 10 (continued)

Term 76-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	104	33.1	94	29.9	116	36.9	314	55.1
B	35	53.8	15	23.1	15	23.1	65	11.4
C	12	66.7	2	11.1	4	22.2	18	3.2
F	20	62.5	7	21.9	5	15.6	32	5.6
Incomplete	27	47.4	17	29.8	13	22.8	57	10.0
Withdrew Course	29	46.8	17	27.4	16	25.8	62	10.9
Withdrew College	9	40.9	10	45.5	3	13.6	22	3.9
Column Total	236	41.4[a]	162	28.4[a]	172	30.2[a]	570	100.0[a]

Note. 49 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 32.250$, df = 12, $p < .01$.

Term 76-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	53	27.6	57	29.7	82	42.7	192	32.4
B	38	39.2	25	25.8	34	35.1	97	16.4
C	28	44.4	20	31.7	15	23.8	63	10.6
D	4	57.1	2	28.6	1	14.3	7	1.2
F	75	57.7	27	20.8	28	21.5	130	22.0
Incomplete	18	62.1	5	17.2	6	20.7	29	4.9
Withdrew Course	19	38.0	15	30.0	16	32.0	50	8.4
Withdrew College	8	33.3	9	37.5	7	29.2	24	4.1
Column Total	243	41.0[a]	160	27.0[a]	189	31.9[a]	592	100.0[a]

Note. 54 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 41.514$, df = 14, $p < .001$.

Table 10 (continued)

Term 76-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	48	33.6	37	25.9	58	40.6	143	56.7
B	16	50.0	8	25.0	8	25.0	32	12.7
C	9	64.3	4	28.6	1	7.1	14	5.6
D	3	75.0	0	.0	1	25.0	4	1.6
F	11	73.3	4	26.7	0	.0	15	6.0
Incomplete	17	70.8	4	16.7	3	12.5	24	9.5
Withdrew Course	8	57.1	4	28.6	2	14.3	14	5.6
Withdrew College	1	16.7	4	66.7	1	16.7	6	2.4
Column Total	113	44.8[a]	65	25.8[a]	74	29.4[a]	252	100.0[a]

Note. 12 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 36.724$, df = 14, $p < .001$.

Term 76-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	15	18.1	32	38.6	36	43.4	83	55.0
B	19	65.5	6	20.7	4	13.8	29	19.2
C	11	78.6	2	14.3	1	7.1	14	9.3
D	1	100.0	0	.0	0	.0	1	.7
F	2	40.0	0	.0	3	60.0	5	3.3
Incomplete	4	57.1	1	14.3	2	28.6	7	4.6
Withdrew Course	4	50.0	3	37.5	1	12.5	8	5.3
Withdrew College	0	.0	0	.0	4	100.0	4	2.6
Column Total	56	37.1[a]	44	29.1[a]	51	33.8[a]	151	100.0[a]

Note. 4 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 48.832$, df = 14, $p < .001$.

hypothesis that the reading grades were not independent of, but related to, the Nelson-Denny pretest total grade-level equivalency scores was tenable.

The 1974-3 term approached significance at $p = .0582$. The chi-square values were not significant for the 1974-4 and 1975-4 terms and the null hypothesis that the two variables were independent for these terms was not rejected.

Among the terms that were significant, $p < .05$, a higher proportion of the A's were awarded to the group that scored at the 13.0 grade level and above (ranging from 36.9% for the 1976-1 term to 46.2% for the 1975-2 term) than were awarded to either the 10.0 to 12.9 grade-level category or to the 9.0 and below category. Generally, a larger proportion of "A" reading grades were awarded to students who scored at the 10.0 to 12.9 grade-level than to the students who scored at the 9.9 grade-level and below (1974-1, 1974-2, 1975-2, 1975-3, 1976-2 and 1976-4). Exceptions were found in the 1975-1, 1976-1 and 1976-3 terms where a slightly higher precentage of "A" reading grades were awarded to the 9.9 and below category than to the 10.0 to 12.9 category.

Generally, a larger proportion of B, C, D, and F grades were awarded to students who scored at the 9.9 grade-level and below than were awarded to the 10.0 to 12.9 category or to the 13.0 and above category. Exceptions to this general statement were noted as follows:

During the 1974-1 term, 38.3% of the B grades were awarded to the 10.0 to 12.9 category as compared with 35% of the B's to the 9.9 and below group. A higher proportion of C grades, 55%, were awarded to the 10.0 to 12.9 category compared to 40% awarded to 9.0 and below category in the 1975-1 term.

In the 1976-4 term a higher proportion of F grades, 60% (3 students) were awarded to the 13.0 and above category as compared to 40% (2 students) in the 9.9 and below category. During the 1976-4 term no F grades were awarded to the 10.0 to 12.9 grade-level group.

It should also be noted that of the nine terms where significant relationships were found between the reading grades awarded and the total grade-level equivalent scores, the D and F grades were restricted to the 1976 terms. The D grades constituted from .7% (1976-4) to 1.6% (1976-3) of the grades awarded during this period and contributed very little to the chi-square value. During the 1976-1 through 1976-4 terms, the F grades constituted between 5.6% (1976-1) to 22% (1976-2) of the grades awarded.

For the 9 terms where a significant relationship existed between the reading grades awarded and the Nelson-Denny pretest total grade-level equivalency scores, a larger proportion of the incomplete grades, ranging from 38.1 (1974-1) to 70.8% (1976-3), were awarded to the students scoring at the 9.9 grade level and below than were awarded to the 13.0 and above grade level or to the 10.0 to 12.9 grade level. The 1974-1 term was an exception to this generality in that 38.8% of the 10.0 to 12.9 grade-level group were awarded incomplete grades as compared to 38.1% of the 9.9 and below group.

Students who withdrew from the reading 179 courses were more likely to have scored at the 9.9 and below grade level than at the 10.0 to 12.9 grade level or at the 13.0 and above grade level. (1974-1, 1975-1, 1975-2, 1976-1, 1976-2, 1976-3, 1976-4). Two exceptions were found to this trend. In the 1974-2 term, 34.8% of the withdrawals from reading 179 courses

scored at the 9.9 and below grade level and 36.5% scored at the 13.0 grade level and above. In the 1975-3 term, 23.8% scored at the 9.9 grade level and below, 23.8% at the 10.0 to 12.9 grade level and 52.4% scored at the 13.0 grade level. The overall proportion of students who withdrew from the reading courses ranged from 9.3% (1975-3) to 23.6% (1974-2).

There was no general linear trend between the students who withdrew from college and their Nelson-Denny pretest total grade-level equivalency scores. For the nine terms with significant chi-square values, the overall percentage of withdrawals from college ranged from 2.3% (1975-3) to 5.1% (1975-2).

For further analysis over the twelve-term, three-year period, the grade-level equivalency scores were dichotomized into two grade-level categories, the 9.9 and below category and the 10.0 and above category. When the reading grades for all 12 terms were combined and grouped into the two grade-level categories, 27% of the A's, 46% of the B's, 50% of the C's, 71% of the D's, 59% of the F's, 45% of the incompletes, 39% of the withdrawals from the reading courses, and 32% of the withdrawals from the college grades were awarded to the 9.9 and below category. In this dichotomized configuration a larger proportion of C, D, and F grades were awarded to 9.9 and below category than to the 10.0 and above category, less than one-half of the B and incomplete grades were awarded to the 9.9 and below category, while approximately one-third of the withdrawals from the reading 179 courses and withdrawals from the college students scored at the 9.9 and below grade level.

The grades were combined for the twelve-term, three-year period and this combined distribution showed that of the total grades awarded, 45.89% were A's, 14.75% were B's, 4.94% were C's, .31% were D's, 4.05% were F's, 14.42%

were incompletes, 12.24% were withdrawals from the reading 179 courses, and 3.38% were withdrawals from the college.

Crosstabulation of LSC English grades with pretest grade-level equivalency scores. The LSC students' English 179 grades were crosstabulated with the Nelson-Denny pretest total grade-level equivalency scores. Chi-square tests were performed to test the null hypothesis that the LSC English 179 grades were independent of the variable, Nelson-Denny pretest total grade-level equivalency scores. The results are reported in Table 11. The chi-square values were significant at $p < .05$ for 7 of the 12 terms during the three-year study. (1974-1 $p < .001$; 1974-2, 1975-1, 1976-1 $p < .01$; 1974-3 and 1975-2 $p < .02$; 1975-4 $p < .05$). The null hypothesis was rejected and it was concluded that the English grades and pretest total grade-level equivalency scores were related for these terms and differed from zero only by chance.

The data for the 7 terms with significant relationships showed that a larger proportion of A's were awarded to the students scoring at the 13.0 grade level and above than were awarded to the students scoring at the 9.9 grade level and below (1974-1, 1974-2, 1974-3, 1975-1, 1975-2, 1975-4). The 1976-2 term was the exception to this trend which showed that A's were awarded to 39.3% of the 9.9 and below grade level and to 36.6% to 13.0 grade level and above. Among the 7 terms with significant relationships, a slightly higher proportion of A grades were awarded to the 10.0 to 12.9 grade-level category than to the 9.0 and below group (1974-1, 1974-2, 1975-1, 1975-2). However, a higher proportion of A grades were awarded to the 9.9 and below category than to the 10.0 to 12.9 group for three terms (1974-3, 1975-2, 1976-2).

Table 11

Crosstabulation of LSC English 179 Grades

with Nelson-Denny Pretest Total

Grade-Level Equivalency Scores

Term 74-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	15	26.3	16	28.1	26	45.6	57	22.4
B	16	59.3	7	25.9	4	14.8	27	10.6
C	23	65.7	11	31.4	1	2.9	35	13.7
D	4	66.7	1	16.7	1	16.7	6	2.4
Incomplete	33	67.3	11	22.4	5	10.2	49	19.2
Withdrew Course	21	28.8	20	27.4	32	43.8	73	28.6
Withdrew College	1	12.5	4	50.4	3	37.5	8	3.1
Column Total	113	44.3[a]	70	27.5[a]	72	28.2[a]	255	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 52.176$, $df = 12$, $p < .001$.

Term 74-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	18	23.1	26	33.3	34	43.6	78	31.2
B	20	57.1	9	25.7	6	17.1	35	14.0
C	6	33.3	10	55.6	2	11.1	18	7.2
D	1	100.0	0	.0	0	.0	1	.4
Incomplete	29	51.8	11	19.6	16	28.6	56	22.4
Withdrew Course	24	40.0	17	28.3	19	31.7	60	24.0
Withdrew College	2	100.0	0	.0	0	.0	2	.8
Column Total	100	40.0[a]	73	29.2[a]	77	30.8[a]	250	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 30.084$, $df = 12$, $p < .01$.

Table 11 (continued)

Term 74-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	9	25.7	8	22.9	18	51.4	35	41.7
B	6	54.5	1	9.1	4	36.4	11	13.1
C	4	57.1	2	28.6	1	14.3	7	8.3
Incomplete	14	63.6	6	27.3	2	9.1	22	26.2
Withdrew Course	5	55.6	4	44.4	0	.0	9	10.7
Column Total	38	45.2[a]	21	25.0[a]	25	29.8[a]	84	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 19.939$, $df = 8$, $p < .02$.

Term 74-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	10	25.0	13	32.5	17	42.5	40	40.4
B	5	45.0	2	18.2	4	36.4	11	11.1
C	9	75.0	3	25.0	0	.0	12	12.1
Incomplete	9	47.4	3	15.8	7	36.8	19	19.1
Withdrew Course	6	37.5	7	43.3	3	18.8	16	16.2
Withdrew College	1	100.0	0	.0	0	.0	1	1.0
Column Total	40	40.4[a]	28	28.3[a]	31	31.3[a]	99	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 17.244$, $df = 10$, $p = .0691$.

Table 11 (continued)

Term 75-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	31	25.4	40	32.8	51	41.8	122	40.1
B	17	44.7	15	39.5	6	15.8	38	12.5
C	10	50.0	7	35.0	3	15.0	20	6.6
D	3	100.0	0	.0	0	.0	3	1.0
Incomplete	38	52.1	17	23.3	18	24.7	73	24.0
Withdrew Course	20	46.5	7	16.3	16	37.2	43	14.1
Withdrew College	2	40.0	1	20.0	2	40.0	5	1.6
Column Total	121	39.8[a]	87	28.6[a]	96	31.6[a]	304	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 31.044$, $df = 12$, $p < .01$.

Term 75-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	44	36.4	26	21.5	51	42.1	121	40.9
B	20	50.0	7	17.5	13	32.5	40	13.5
C	23	79.0	1	3.4	5	17.2	29	9.8
D	2	100.0	0	.0	0	.0	2	.7
Incomplete	27	42.9	13	20.6	23	36.5	63	21.3
Withdrew Course	9	33.3	9	33.3	9	33.3	27	9.1
Withdrew College	8	57.1	2	14.3	4	28.5	14	4.1
Column Total	133	44.9[a]	58	19.6[a]	105	35.5[a]	296	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 25.203$, $df = 12$, $p < .02$.

Table 11 (continued)

Term 75-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	28	31.8	18	20.5	42	47.7	88	57.9
B	4	33.3	3	25.5	5	41.7	12	7.9
C	5	83.3	0	.0	1	16.7	6	3.9
Incomplete	11	44.0	4	16.0	10	40.0	25	16.4
Withdrew Course	10	52.6	3	15.8	6	31.6	19	12.5
Withdrew College	1	50.0	0	.0	1	50.0	2	1.3
Column Total	59	38.8[a]	28	18.4[a]	65	42.8[a]	152	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 9.633$, df = 10, p = .4732.

Term 75-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	14	23.7	15	25.4	30	50.8	59	50.4
B	15	60.0	5	20.0	5	20.0	25	21.4
C	3	42.9	1	14.3	3	42.9	7	6.0
D	1	100.0	0	.0	0	.0	1	.9
Incomplete	10	62.5	2	12.5	4	25.0	16	13.7
Withdrew Course	6	66.7	1	11.1	2	22.2	9	7.7
Column Total	49	41.9[a]	24	20.5[a]	44	37.6[a]	117	100.0[a]

[a]Row percent.

[b]Column percent.

$\chi^2 = 18.758$, df = 10, $p < .05$.

Table 11 (continued)

Term 76-1	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	47	35.1	42	31.3	45	33.6	134	36.8
B	31	58.5	16	30.2	6	11.3	53	14.6
C	19	59.4	7	21.9	6	18.8	32	8.8
D	4	66.7	2	33.3	0	0.0	6	1.6
Incomplete	43	51.2	23	27.4	18	21.4	84	23.1
Withdrew Course	20	50.0	9	22.5	11	27.5	40	11.1
Withdrew College	7	46.7	5	33.3	3	20.0	15	4.1
Column Total	171	47.0[a]	104	28.6[a]	89	24.5[a]	364	100.0[a]

Note. 53 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 19.896$, $df = 12$, $p = .0691$.

Term 76-2	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	44	39.3	27	24.1	41	36.6	112	29.6
B	29	54.7	15	28.3	9	17.0	53	14.0
C	36	78.3	7	15.2	3	6.5	46	12.2
D	4	57.1	3	42.9	0	.0	7	1.9
F	26	59.1	10	22.9	8	18.2	44	11.6
Incomplete	36	47.4	18	23.7	22	28.9	76	20.1
Withdrew Course	11	42.3	5	19.2	10	38.5	26	6.9
Withdrew College	6	42.9	3	21.4	5	35.7	14	3.7
Column Total	192	50.8[a]	88	23.3[a]	98	25.9[a]	378	100.0[a]

Note. 45 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 32.980$, $df = 14$, $p < .01$.

Table 11 (continued)

Term 76-3	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	29	39.2	17	23.0	28	37.8	74	41.3
B	9	47.4	2	10.5	8	42.1	19	10.6
C	14	58.3	5	20.8	5	20.8	24	13.4
D	1	33.3	0	.0	2	66.7	3	1.7
F	9	64.3	3	21.4	2	14.3	14	7.8
Incomplete	20	74.1	2	7.4	5	18.5	27	15.1
Withdrew Course	7	43.8	3	18.8	6	37.5	16	8.9
Withdrew College	1	50.0	1	50.0	0	.0	2	1.1
Column Total	90	50.3[a]	33	18.4[a]	56	31.3[a]	179	100.0[a]

Note. 17 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 18.364$, df = 17, p = .1907.

Term 76-4	Grade-Level							
	9.9 & below		10.0 to 12.9		13.0 & above		Row total	
Grade	N	%[a]	N	%[a]	N	%[a]	N	%[b]
A	24	36.9	22	33.8	19	29.2	65	49.2
B	14	51.9	3	11.1	10	37.0	27	20.5
C	8	50.0	4	25.0	4	25.0	16	12.1
Incomplete	4	20.0	8	40.0	8	40.0	20	15.2
Withdrew Course	3	100.0	0	.0	0	.0	3	2.3
Withdrew College	0	.0	0	.0	1	100.0	1	.8
Column Total		40.2[a]	37	28.0[a]	42	31.8[a]	132	100.0[a]

Note. 3 missing observations.

[a]Row percent.

[b]Column percent.

$\chi^2 = 15.752$, df = 10, p = .1070.

Generally, larger proportion of the B, C, D and F grades were awarded to the 9.0 and below category than to the 13.0 and above grade level or to the 12.9 category. Among the terms showing significant relationships, the 1975-4 term was an exception in that the same percentage of C grades, 42.9% was awarded to the 9.0 and below group and to the 13.0 and above category. The 1974-2 term was also an exception in that a higher proportion of C grades were awarded to the 10.0 to 12.9 grade level (55.6%) than to the 9.9 and below group (33.3%).

Of the terms showing significant relationships between grade-level scores and grades awarded, a larger proportion of incomplete grades were assigned to the 9.9 grade level and belowthan were awarded to either the 13.0 and above category or to the 10.0 to 12.9 group. (1974-1, 1974-2, 1974-3, 1975-1, 1975-2, 1975-4, 1976-2).

Five of the seven terms with a significant relationship showed that a higher proportion of withdrawals from English 179 courses assigned to the 9.9 and below grade level category (1974-2, 1974-3, 1975-1, 1975-4 and 1976-2) than were assigned to either of the two other categories. The 1975-2 term showed an equal distribution of withdrawals among all three categories. The 1974-1 term showed a larger proportion of withdrawals from the LSC English course in the 13.0 grade level and above group (43.8%) than were assigned to the 9.0 and below group (28.8%). A smaller proportion of the assigned withdrawals scored in the 10.0 to 12.9 range than in the 9.9 and below group or 13.0 and above group for five of the terms (1974-1, 1974-2, 1975-1, 1975-4, 1976-2).

The withdrawals from college constituted a small proportion of the LSC

English 179 grades with slightly higher proportions in the 9.9 and below category than in the 13.0 and above group or in the 10.0 to 12.9 group (1974-2, 1975-2, 1976-2). The 1974-1 term had a higher proportion of withdrawals from college in the 13.0 and above grade category and in the 10.0 to 12.9 group than in the 9.9 and below category.

For further analysis over the twelve-term, three-year period, the grade equivalency scores were dichotomized into two grade-level categories, the 9.9 and below category and the 10.0 and above category. When the English grades for all 12 terms were combined and grouped into the two grade-level categories, 32% of the A's, 53% of the B's, 63% of the C's, 69% of the D's, 60% of the F's, 52% of the incompletes, 42% of the withdrawals from the English course, and 45% of the withdrawals from college were awarded to the 9.9 and below category.

In this dichotomized configuration a larger proportion of B, C, D, F, and incomplete grades were awarded to the 9.9 and below category than to the 10.0 and above category, and less than one-half of the withdrawals from the English 179 courses and withdrawals from the college were awarded to the 9.9 and below category.

The grades were combined for the twelve-term, three-year period and this combined distribution showed that of the total grades awarded, 37.73% were A's, 13.44% were B's, 9.65% were C's, 1.11% were D's, 2.22% were F's, 20.30% were incompletes, 13.06% were withdrawals from the English 179 courses, and 2.45% were withdrawals from college.

Reading 179 grade group (completed-withdrew) crosstabulated by sex. To determine whether the sex of a student differed significantly from chance for

Table 12

LSC Students Who Completed REA 179

and Those Who Withdrew From REA 179

Crosstabulated by Sex

Term 74-1	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	142	43.7	53	50.5	795	45.3
Female	183	56.3	52	49.5	235	54.7
Column Total	325	75.6[b]	105	24.4[b]	430	100[b]

Note. 157 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 1.213$, df = 1,, p = .2708.

Term 74-2	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%
Male	155	56.8	69	60.0	224	57.7
Female	118	43.2	46	40.0	164	42.3
Column Total	273	70.4[b]	115	29.6[b]	388	100.0[b]

Note. 99 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .225$, df = 1, p = .6352.

Table 12 (continued)

Term 74-3	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	77	56.6	12	54.5	89	56.3
Female	59	43.4	10	45.5	69	43.7
Column Total	139	86.1[b]	22	13.9[b]	158	100.0[b]

Note. 49 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .003$, df = 1, p = .9602.

Term 74-4	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	88	57.9	13	56.5	101	57.7
Female	64	42.1	10	43.5	74	42.3
Column Total	155	86.9[b]	23	13.1[b]	175	100.0[b]

Note. 46 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .010$, df = 1, p = .9186.

Table 12 (continued)

Term 75-1	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	189	52.6	39	60.0	228	53.8
Female	170	47.4	26	40.0	196	46.2
Column Total	359	84.7[b]	65	15.3[b]	424	100.0[b]

Note. 105 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .920$, $df = 1$, $p = .3375$.

Term 75-2	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	159	51.3	22	44.9	181	50.4
Female	151	48.7	27	55.1	178	49.6
Column Total	310	86.4[b]	49	13.6[b]	359	100.0[b]

Note. 113 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .460$, $df = 1$, $p = .4678$.

Table 12 (continued)

Term 75-3	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	99	58.9	12	57.1	111	58.7
Female	69	41.1	9	42.9	78	41.3
Column Total	168	88.9[b]	21	11.1[b]	189	100.0[b]

Note. 36 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .006$, df = 1, p = .9375.

Term 75-4	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	83	51.2	8	50.0	91	51.1
Female	79	48.8	8	50.0	87	48.9
Column Total	162	91.0[b]	16	9.0[b]	178	100.0[b]

Note. 24 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .028$, df = 1, p = .8667.

Table 12 (continued)

Term 76-1	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	189	46.8	57	62.6	246	49.7
Female	215	53.2	34	37.4	249	50.3
Column Total	404	81.6[b]	91	18.4[b]	495	100.0[b]

Note. 124 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 6.848$, $df = 1$, $p < .01$.

Term 76-2	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	166	45.7	32	48.5	198	46.2
Female	197	54.3	34	51.5	231	53.8
Column Total	363	84.6[b]	66	15.4[b]	429	100.0[b]

Note. 217 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .078$, $df = 1$, $p = .7804$.

Table 12 (continued)

Term 76-3	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	91	46.7	6	33.3	97	45.5
Female	104	53.3	12	66.7	116	54.5
Column Total	195	91.5[b]	18	3.5[b]	213	100.0[b]

Note. 51 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .705$, df = 1, p = .4012.

Term 76-4	Grade Group					
	Completed		Withdrew		Row total	
Sex	N	%[a]	N	%[a]	N	%[a]
Male	62	48.4	2	22.2	64	46.7
Female	66	51.6	7	77.8	73	53.3
Column Total	128	93.4[b]	9	6.6[b]	137	100.0[b]

Note. 18 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 1.388$, df = 1, p = .2388.

the students who had completed the Reading 179 courses as opposed to students who withdrew from the courses, chi-square tests were performed on the data for each term during the three-year period to test the null hypothesis that the two variables, sex and grade group (completed or withdrew), were independent. The crosstabulations and chi-square tests results are shown in Table 12. In Tables 12 through 16, the terminology "completed" represents students who received A through D grades, and the term "withdrew" represents students who withdrew from the Reading 179 courses.

The results of the chi-square tests show that sex was independent of grade group (completed or withdrew) with the exception of one of the 12 terms (1976-1). Therefore, the null hypothesis was not rejected and it was concluded that the two variables were independent or not related for 11 of the 12 terms.

In the 1976-1 term, a significantly larger proportion of students who withdrew from the courses were males rather than females (62.6% males, 37.4% females); therefore, the null hypothesis was rejected for this term and the alternate hypothesis that sex and grade group are not independent but related was accepted. The level of significance was $p < .01$.

An inspection of the data for the terms resulting in non-significant chi-square tests shows that of the group withdrawing, a larger proportion were males rather than females for six terms (1974-1, 1974-2, 1974-3, 1974-4, 1975-1 and 1975-3). However, the females constituted a larger proportion for four of the terms (1975-2, 1976-2, 1976-3, and 1976-4) and the proportions were equal in the 1975-4 term.

Reading 179 grade group (completed-withdrew) crosstabulated by age. Chi-square tests were performed for Reading 179 students to test the null

Table 13 (continued)

Term 74-2	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
16	2	.7	2	1.7	4	1.0
17	10	3.7	5	4.3	15	3.9
18	40	14.7	17	14.8	57	14.7
19	46	16.8	22	19.1	68	17.5
20	41	15.0	16	13.9	57	14.7
21	24	8.8	9	7.8	33	8.5
22	17	6.2	7	6.1	24	6.2
23	6	2.2	10	8.7	16	4.1
24	11	4.0	6	5.2	17	4.4
25	11	4.0	3	2.6	14	3.6
26	10	3.7	1	.9	11	2.8
27	5	1.8	1	.9	6	1.5
28	6	2.2	2	1.7	8	2.1
29	2	.7	1	.9	3	.8
30-39	21	7.7	3	2.6	24	6.2
40-49	13	4.8	7	6.1	20	5.2
50-59	5	1.8	1	.9	6	1.5
60-69	0	.0	1	.9	1	.3
70 or above	3	1.1	1	.9	4	1.0
Column Total	273	70.4[b]	115	29.6[b]	388	100.0[b]

Note. 99 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 19.660$, $df = 18$, $p = .3523$.

Table 13 (continued)

Term 74-3	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
17	5	3.7	1	4.5	6	3.8
18	12	8.9	2	9.1	14	8.9
19	26	19.3	9	40.9	35	22.3
20	15	11.1	5	22.7	20	12.7
21	8	5.9	1	4.5	9	5.7
22	6	4.4	0	.0	6	3.8
23	3	2.2	0	.0	3	1.9
24	5	3.7	0	.0	5	3.2
25	2	1.5	2	9.1	4	2.5
26	7	5.2	0	.0	7	4.5
27	1	.7	0	.0	1	.6
28	3	2.2	0	.0	3	1.9
30-39	27	20.0	2	9.1	29	18.5
40-49	10	7.4	0	.0	10	6.4
50-59	2	1.5	0	.0	2	1.3
60-69	2	1.5	0	.0	2	1.3
70 or above	1	.7	0	.0	1	.6
Column Total	135	86.0[b]	22	14.0[b]	157	100.0[b]

Note. 50 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 18.117$,. df = 16, p = .3171.

Table 13 (continued)

Term 74-4	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
15	2	1.3	0	.0	2	1.1
16	8	5.3	1	4.3	9	5.1
17	18	11.8	1	4.3	19	10.9
18	15	9.9	3	13.0	18	10.3
19	14	9.2	3	13.0	17	9.7
20	12	7.9	2	8.7	14	8.0
21	9	5.9	2	8.7	11	6.3
22	7	4.6	1	4.3	8	4.6
23	3	2.0	0	.0	3	1.7
24	3	2.0	0	.0	3	1.7
25	5	3.3	2	8.7	7	4.0
26	6	3.9	1	4.3	7	4.0
27	2	1.3	0	.0	2	1.1
28	5	3.3	0	.0	5	2.9
29	4	2.6	2	8.7	6	3.4
30-39	24	15.8	4	17.4	28	16.0
40-49	13	8.6	1	4.3	14	8.0
50-59	1	.7	0	.0	1	.6
70 or above	1	.7	0	.0	1	.6
Column Total	152	86.9[b]	23	13.1[b]	175	100.0[b]

Note. 46 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 8.484$, $df = 18$, $p = .9705$.

Table 13 (continued)

Term 75-1	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
14	1	.3	0	.0	1	.2
15	1	.3	0	.0	1	.2
16	1	.3	0	.0	1	.2
17	25	7.0	2	3.1	27	6.4
18	75	20.9	16	24.6	91	21.5
19	76	21.2	9	13.8	85	20.0
20	38	10.6	6	9.2	44	10.4
21	23	6.4	6	9.2	29	6.8
22	7	1.9	3	4.6	10	2.4
23	10	2.8	2	3.1	12	2.8
24	6	1.7	0	.0	6	1.4
25	4	1.1	3	4.6	7	1.7
26	7	1.9	2	3.1	9	2.1
27	7	1.9	2	3.1	9	2.1
28	8	2.2	1	1.5	9	2.1
29	5	1.4	1	1.5	6	1.4
30-39	40	11.1	11	16.9	51	12.0
40-49	23	6.4	1	1.5	24	5.7
50-59	1	.3	0	.0	1	.2
70 or above	1	.3	0	.0	1	.2
Column Total	359	84.7[b]	65	15.3[b]	424	100.0[b]

Note. 105 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 16.249$, df = 19, p = .6406.

Table 13 (continued)

Term 75-2	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
14	1	.3	0	.0	1	.3
15	2	.6	0	.0	2	.6
16	4	1.3	0	.0	4	1.1
17	16	5.2	1	2.0	17	4.7
18	53	17.1	7	14.3	60	16.7
19	51	16.5	12	24.5	63	17.5
20	34	11.0	8	16.3	42	11.7
21	20	6.5	4	8.2	24	6.7
22	5	1.6	2	4.1	7	1.9
23	11	3.5	0	.0	11	3.1
24	5	1.6	3	6.1	8	2.2
25	9	2.9	3	6.1	12	3.3
26	12	3.9	1	2.0	13	3.6
27	4	1.3	0	.0	4	1.1
28	9	2.9	2	4.1	11	3.1
29	9	2.9	0	.0	9	2.5
30-39	36	11.6	3	6.1	39	10.9
40-49	22	7.1	1	2.0	23	6.4
50-59	3	1.0	0	.0	3	.8
60-69	2	.6	1	2.0	3	.8
70 or above	2	.6	1	2.0	3	.8
Column Total	310	86.4[b]	49	13.6[b]	359	100.0[b]

Note. 113 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 21.140$,, $df = 20$, $p = .3889$.

Table 13 (continued)

Term 75-3	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
15	1	.6	0	.0	1	.5
16	2	1.2	0	.0	2	1.1
17	3	1.8	0	.0	3	1.6
18	13	7.7	1	4.8	14	7.4
19	36	21.4	7	33.3	43	22.8
20	27	16.1	3	14.3	30	15.9
21	13	7.7	0	.0	13	6.9
22	6	3.6	1	4.8	7	3.7
23	7	4.2	2	9.5	9	4.8
24	7	4.2	0	.0	7	3.7
25	2	1.2	1	4.8	3	1.6
26	5	3.0	2	9.5	7	3.7
27	11	6.5	2	9.5	13	6.9
28	3	1.8	1	4.8	4	2.1
29	2	1.2	0	.0	2	1.1
30-39	14	8.3	1	4.8	15	7.9
40-49	13	7.7	0	.0	13	6.9
50-59	3	1.8	0	.0	3	1.6
Column Total	168	88.9[b]	21	11.1[b]	189	100.0[b]

Note. 36 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 13.102$, $df = 17$, $p = .7293$.

Table 13 (continued)

Term 75-4	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
13	1	.6	0	.0	1	.6
15	1	.6	0	.0	1	.6
16	5	3.1	1	6.3	6	3.4
17	6	3.7	0	.0	6	3.4
18	13	8.0	0	.0	13	7.3
19	30	18.5	2	12.5	32	18.0
20	21	13.0	2	12.5	23	12.9
21	13	8.0	3	18.8	16	9.0
22	6	3.7	2	12.5	8	4.5
23	7	4.3	1	6.3	8	4.5
24	8	4.9	1	6.3	9	5.1
25	10	6.2	2	12.5	12	6.7
26	3	1.9	0	.0	3	1.7
27	7	4.3	1	6.3	8	4.5
28	1	.6	0	.0	1	.6
29	3	1.9	0	.0	3	1.7
30-39	30	6.8	1	6.3	12	6.7
40-49	12	7.4	0	.0	12	6.7
50-59	3	1.9	0	.0	3	1.7
70 or above	1	.6	0	.0	1	.6
Column Total	162	91.0[b]	16	9.0[b]	178	100.0[b]

Note. 24 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 10.606$, df = 19, p = .9364.

Table 13 (continued)

Term 76-1	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
15	1	.2	0	.0	1	.2
17	6	1.6	0	.0	6	1.2
18	42	10.4	11	12.1	53	10.7
19	86	21.3	18	19.8	104	21.0
20	59	14.6	16	17.6	75	15.2
21	48	11.9	11	12.1	59	11.9
22	22	5.4	11	12.1	33	6.7
23	22	5.4	4	4.4	26	5.3
24	7	1.7	4	4.4	11	2.2
25	13	3.2	2	2.2	15	3.0
26	10	2.5	7	7.7	17	3.4
27	10	2.5	1	1.1	11	2.2
28	9	2.2	3	3.3	12	2.4
29	9	2.2	0	.0	9	1.8
30-39	35	8.7	2	2.2	37	7.5
40-49	16	4.0	1	1.1	17	3.4
50-59	6	1.5	0	.0	6	1.2
60-69	2	.5	0	.0	2	.4
70 or above	1	.2	0	.0	1	.2
Column Total	404	81.6[b]	91	18.4[b]	495	100.0[b]

Note. 124 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 26.837$, df = 18, p = .0821.

Table 13 (continued)

Term 76-2	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
15	1	.3	0	.0	1	.2
16	3	.8	0	.0	3	.7
17	3	.8	0	.0	3	.7
18	24	6.6	1	1.5	25	5.8
19	75	20.7	17	25.8	92	21.5
20	63	17.4	18	27.3	81	18.9
21	43	11.9	6	9.1	49	11.4
22	23	6.4	7	10.6	30	7.0
23	13	3.6	2	3.0	15	3.5
24	12	3.3	1	1.5	13	3.0
25	11	3.0	2	3.0	13	3.0
26	12	3.3	1	1.5	13	3.0
27	9	2.5	1	1.5	10	2.3
28	11	3.0	0	.0	11	2.6
29	6	1.7	0	.0	6	1.4
30-39	28	7.7	6	9.1	34	7.9
40-49	17	4.7	2	3.0	19	4.4
50-59	5	1.4	2	3.0	7	1.6
60-69	3	.8	0	.0	3	.7
Column Total	362	84.6[b]	66	15.4[b]	428	100.0[b]

Note. 218 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 15.647$,, df = 18, p = .6172.

Table 13 (continued)

Term 76-3	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
15	1	.5	0	.0	1	.5
17	3	1.5	0	.0	3	1.4
18	16	8.2	0	.0	16	7.5
19	34	17.4	2	11.1	36	16.9
20	34	17.4	2	11.1	36	16.9
21	15	7.7	1	5.6	16	7.5
22	9	4.6	2	11.1	11	5.2
23	7	3.6	0	.0	7	3.3
24	8	4.1	0	.0	8	3.8
25	4	2.1	1	5.6	5	2.3
26	4	2.1	3	16.7	7	3.3
27	8	4.1	0	.0	8	3.8
28	9	4.6	1	5.6	10	4.7
29	5	2.6	1	5.6	6	2.8
30-39	20	10.3	5	27.8	25	11.7
40-49	12	6.2	0	.0	12	5.6
50-59	4	2.1	0	.0	4	1.9
60-69	2	1.0	0	.0	2	.9
Column Total	195	91.5[b]	18	8.5[b]	213	100.0[b]

Note. 51 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 24.295$, $df = 17$, $p = .1116$.

Table 13 (continued)

Term 76-4	Grade Group					
	Completed		Withdrew		Row total	
Age	N	%[a]	N	%[a]	N	%[a]
15	2	1.6	0	.0	2	1.5
17	2	1.6	0	.0	2	1.5
18	15	11.7	0	.0	15	10.9
19	16	12.5	2	22.2	18	13.1
20	19	14.8	2	22.2	21	15.3
21	15	11.7	1	11.1	16	11.7
22	7	5.5	0	.0	7	5.1
23	5	3.9	0	.0	5	3.6
24	3	2.3	1	11.1	4	2.9
25	4	3.1	0	.0	4	2.9
26	7	5.5	1	11.1	8	5.8
27	2	1.6	1	11.1	3	2.2
28	5	3.9	0	.0	5	3.6
29	3	2.3	0	.0	3	2.2
30-39	12	9.4	1	11.1	13	9.5
40-49	7	5.5	0	.0	7	5.1
50-59	2	1.6	0	.0	2	1.5
60-69	2	1.6	0	.0	2	1.5
Column Total	128	93.4[b]	9	6.6[b]	137	100.0[b]

Note. 18 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 10.903$, df = 17, p = .8616.

hypothesis that the variable, grade group (completed or withdrew), was independent of the variable age. The crosstabulations and chi-square test results are displayed in Table 13. No significant relationships were found for any of the 12 terms. Therefore, the null hypothesis was not rejected and it was concluded that the variable group grade (completed or withdrew) was independent or not related to the student's age for the students enrolled in the Reading 179 courses.

Reading 179 grade group (completed-withdrew) crosstabulated by enrollment status. Chi-square tests for Reading 179 students were performed to test the null hypothesis that the students' enrollment status was independent of the students' grade group (completed or withdrew from the course) category. The results of these data are reported in Table 14. The definitions for the enrollment categories have been explained in the discussion related to Table 3.

Out of the 12 terms reported in this study two terms (1974-1 and 1975-2) showed significant chi-square values at less than the .05 level of significance; the null hypothesis, therefore, was rejected for these two terms. The contingency tables for the 1974-1 and 1975-2 terms showed that a higher proportion of student who withdrew from the courses were classified as first-time-in-college students, and that a higher proportion of students who completed the course were classified as continuing students.

Although the non-significant chi-square tests showed that the grade group (completed or withdrew) category was independent of enrollment status which resulted in the failure to reject the null hypothesis, an inspection of the data shows that the proportions of withdrawals for first-time students were slightly higher than for first-time students

Table 14

LSC Students Who Completed REA 179

and Those Who Withdrew from REA 179

Crosstabulated by Enrollment Status

Term 74-1	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%
Early admit	2	.6	3	2.9	5	1.2
First time	124	38.2	52	49.5	176	40.9
Transfer	6	1.8	4	3.8	10	2.3
Continuing	169	52.0	38	36.2	207	48.1
Former	15	4.6	5	4.8	20	4.7
High school	9	2.8	3	2.9	12	2.8
Column total	325	75.6[b]	105	24.4[b]	430	100.0[b]

Note. 157 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 11.378$, df = 5, p = .0444.

Term 74-2	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
Early admit	2	.7	2	1.7	4	1.0
First time	61	22.3	28	24.3	89	22.9
Transfer	14	5.1	6	5.2	20	5.2
Continuing	172	63.0	71	61.7	243	62.6
Former	18	6.6	6	5.2	24	6.2
High school	6	2.2	2	1.7	8	2.1
Column total	273	70.4[b]	115	29.6[b]	388	100.0[b]

Note. 99 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 1.289$, df = 5, p = .9361.

Table 14 (continued)

Term 74-3	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
Early admit	4	2.9	1	4.5	5	3.2
First time	8	5.9	3	13.6	11	7.0
Transfer	2	1.5	1	4.5	3	1.9
Continuing	88	64.7	10	45.5	98	62.0
Former	3	2.2	-	9.1	5	3.2
High school	31	22.8	5	22.7	36	22.8
Column total	136	86.1[b]	22	13.9[b]	158	100.0[b]

Note. 49 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 6.701$, df = 5, p = .2439.

Term 74-4	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
Early admit	2	1.3	1	4.3	3	1.7
First time	31	20.4	2	8.7	33	18.9
Transfer	3	2.0	0	.0	3	1.7
Continuing	91	59.9	16	69.6	107	61.1
Former	9	5.9	2	8.7	11	6.3
High school	16	10.5	2	8.7	18	10.3
Column total	152	86.9[b]	23	13.1[b]	175	100.0[b]

Note. 46 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 3.592$, df = 5, p = .6095.

Table 14 (continued)

Term 75-1	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
Early admit	2	.6	1	1.5	3	.7
First time	113	31.5	24	36.9	137	32.5
Transfer	8	2.2	2	3.1	10	2.4
Continuing	207	57.7	30	46.2	237	55.9
Former	23	6.4	7	10.8	30	7.1
High school	6	1.7	1	1.5	7	1.7
Column total	359	84.7[b]	65	15.3[b]	424	100.0[b]

Note. 105 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 4.212$, $df = 5$, $p = .5193$.

Term 75-2	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
Early admit	2	.6	0	.0	2	.6
First time	13	4.2	7	14.3	20	5.6
Transfer	1	.3	0	.0	1	.3
Continuing	272	87.7	42	85.7	314	87.5
Former	5	1.6	0	.0	5	1.4
High school	17	5.5	0	.0	17	4.7
Column total	310	86.4[b]	49	13.6[b]	359	100.0[b]

Note. 113 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 11.707$, $df = 5$, $p = .0390$.

Table 14 (continued)

Term 75-3	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
Early admit	2	1.2	0	.0	2	1.1
First time	8	4.8	0	.0	8	4.2
Transfer	2	1.2	0	.0	2	1.1
Continuing	151	89.9	20	95.2	171	90.5
Former	1	.6	0	.0	1	.5
High school	4	2.4	1	4.8	5	2.6
Column total	168	88.9[b]	21	11.1[b]	189	100.0[b]

Note. 36 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 2.084$, $df = 5$, $p = .8374$.

Term 75-4	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
First time	14	8.6	1	6.3	15	8.4
Transfer	4	2.5	2	12.5	6	3.4
Continuing	129	79.6	12	75.0	141	79.2
Former	6	3.7	0	.0	6	3.4
High school	9	5.6	1	6.3	10	5.6
Column total	162	91.0[b]	16	9.0[b]	178	100.0[b]

Note. 24 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 5.090$, $df = 4$, $p = .2782$.

Table 14 (continued)

Term 76-1	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
Early admit	3	.7	0	.0	3	.6
First time	98	24.3	32	35.2	130	26.3
Transfer	14	3.5	1	1.1	15	3.0
Continuing	273	67.6	56	61.5	329	66.5
Former	13	3.2	2	2.2	15	3.0
High school	3	.7	0	.0	3	.6
Column total	404	81.6[b]	91	18.4[b]	495	100.0[b]

Note. 124 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 6.751$, df = 5, p = .2399.

Term 76-2	Grade Group					
	Completed		Withdrew		Row total	
Enrollment Status	N	%[a]	N	%[a]	N	%[a]
Early admit	2	.6	0	.0	2	.5
First time	55	15.2	15	22.7	70	16.3
Transfer	14	3.9	2	3.0	16	3.7
Continuing	267	73.6	44	66.7	311	72.5
Former	17	4.7	5	7.6	22	5.1
High school	8	2.2	0	.0	8	1.9
Column total	363	84.6[b]	66	15.4[b]	429	100.0[b]

Note. 217 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 5.161$, df = 5, p = .3965.

Table 14 (continued)

Term 76-3 Enrollment Status	Grade Group: Completed N	Completed %[a]	Withdrew N	Withdrew %[a]	Row total N	Row total %[a]
First time	22	11.3	6	33.3	28	13.1
Transfer	8	4.1	0	.0	8	3.8
Continuing	151	77.4	11	61.1	162	76.1
Former	8	4.1	1	5.6	9	4.2
High school	6	3.1	0	.0	6	2.8
Column total	195	91.5[b]	18	8.5[b]	213	100.0[b]

Note. 51 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 8.048$, df = 4, p = .0898.

Enrollment Status	Grade Group: Completed N	Completed %[a]	Withdrew N	Withdrew %[a]	Row total N	Row total %[a]
Early admit	2	1.6	0	.0	2	1.5
First time	18	14.1	1	11.1	19	13.9
Transfer	2	1.6	0	.0	2	1.5
Continuing	96	75.0	7	77.8	103	75.2
Former	4	3.1	1	11.1	5	3.6
High school	6	4.7	0	.0	6	4.4
Column total	128	93.4[b]	9	6.6[b]	137	100.0[b]

Note. 18 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 2.234$, df = 5, p = .8159.

who completed the course during the six terms (1974-2, 1974-3, 1975-1, 1976-1, 1976-2, 1976-3). This trend was reversed in the 1974-4, 1975-3, 1975-4, and 1976-4 terms.

An inspection of the data pertaining to the non-significant chi-square tests tables also shows that a slightly larger proportion of the completed were classified as continuing students for the seven terms, 1974-2, 1974-3, 1975-1, 1975-4, 1976-1, 1976-2, and 1976-3. This trend was reversed with a slightly larger proportion of the withdrawals classified as continuing students during the 1974-4, 1975-3 and 1976-4 terms.

Reading 179 grade group (completed-withdrew) crosstabulated by ethnicity. The null hypothesis was tested that the variable grade group (completed or withdrew from course), was independent of the variable ethnicity for the Reading 179 students. The ethnic classification included three major groups--White Americans, Black Americans, and Hispanics; and four minor classifications--Oriental Americans, American Indians, Immigrant Aliens and foreign students on student visas.

Chi-square tests were performed for the LSC Reading 179 students for each of the 12 terms during the three-year period. The data are shown in Table 15 by academic term. None of the tests yielded a significant chi-square value at the .05 level. Therefore, the null hypothesis was not rejected and it was concluded that completion or withdrawal from the Reading 179 courses was independent or not related to the ethnic classification of the students.

Reading 179 grade group (completed-withdrew) crosstabulated by pretest grade-level equivalency scores. The null hypothesis was tested that the variable grade group (completed or withdrew from class) was independent of the Nelson-Denny pretest total grade-level equivalency

Table 15

LSC Students Who Completed REA 179

and Those Who Withdrew from REA 179

Crosstabulated by Ethnicity

Term 74-1	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	146	58.4	47	58.8	193	58.5
Black American	41	16.4	11	13.8	52	15.8
Hispanic	44	17.6	15	18.8	59	17.9
Oriental American	2	.8	0	.0	2	.6
Immigrant Alien	10	4.0	5	6.3	15	4.5
Student Visa	7	2.8	2	2.5	9	2.7
Column Total	250	75.8[b]	80	24.2[b]	330	100.0[b]

Note. 257 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 1.651$, $df = 5$, $p = .8950$.

Term 74-2	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	145	67.1	52	56.5	197	64.0
Black American	27	12.5	18	19.6	45	14.6
Hispanic	23	10.6	16	17.4	39	12.7
Oriental American	3	1.4	1	1.1	4	1.3
Immigrant Alien	16	7.4	5	5.4	21	6.8
Student Visa	2	.9	0	.0	2	.6
Column Total	216	70.1[b]	92	29.9[b]	308	100.0[b]

Note. 179 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 6.922$, $df = 5$, $p = .2265$.

Table 15 (continued)

Term 74-3	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	87	70.2	12	66.7	99	69.7
Black American	17	13.7	2	11.1	19	13.4
Hispanic	15	12.1	3	16.7	18	12.7
Oriental American	1	.8	0	.0	1	.7
Immigrant Alien	4	3.2	1	5.6	5	3.5
Column Total	124	87.3[b]	18	12.7[b]	142	100.0[b]

Note. 65 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .753$, df = 4, p = .9446.

Term 74-4	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	90	64.3	12	52.2	102	62.6
Black American	27	19.3	4	17.4	31	19.0
Hispanic	18	12.9	4	17.4	22	13.5
Immigrant Alien	5	3.6	3	13.0	8	4.9
Column Total	140	85.9[b]	23	14.1[b]	163	100.0[b]

Note. 58 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 4.413$, df = 3, p = .2202.

Table 15 (continued)

Term 75-1	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	218	64.1	31	50.8	249	62.1
Black American	45	13.2	16	26.2	61	15.2
Hispanic	64	18.8	11	18.0	75	18.7
Oriental American	2	.6	0	.0	2	.5
Immigrant Alien	9	2.6	3	4.9	12	3.0
Student Visa	2	.6	0	.0	2	.5
Column Total	340	84.8[b]	61	15.2[b]	401	100.0[b]

Note. 128 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 8.840$, df = 5, p = .1156.

Term 75-2	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	181	59.5	23	47.9	204	58.0
Black American	53	17.4	14	29.2	67	19.0
Hispanic	55	18.1	8	16.7	63	17.9
Oriental American	3	1.0	0	.0	3	.9
Immigrant Alien	8	2.6	3	6.3	11	3.1
Student Visa	4	1.3	0	.0	4	1.1
Column Total	304	86.4[b]	48	13.6[b]	352	100.0[b]

Note. 120 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 6.853$, df = 5, p = .2318.

Table 15 (continued)

Term 75-3	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	99	61.1	13	65.0	112	61.5
Black American	34	21.0	5	25.0	39	21.4
Hispanic	23	14.2	2	10.0	25	13.7
American Indian	1	.6	0	.0	1	.5
Oriental American	1	.6	0	.0	1	.5
Immigrant Alien	1	.6	0	.0	3	1.6
Student Visa	3	1.9	0	.0	1	.5
Column Total	162	89.0[b]	20	11.0[b]	182	100.0[b]

Note. 43 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 1.147$, df = 6, p = .9794.

Term 75-4	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	83	54.2	8	57.1	91	54.5
Black American	32	20.9	6	42.9	38	22.8
Hispanic	32	20.9	0	.0	32	19.2
Oriental American	2	1.3	0	.0	2	1.2
Immigrant Alien	3	2.0	0	.0	3	1.8
Student Visa	1	.7	0	.0	1	.6
Column Total	153	91.6[b]	14	8.4[b]	167	100.0[b]

Note. 3 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 6.211$, df = 5, p = .2863.

Table 15 (continued)

Term 76-1	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	195	50.8	44	51.2	239	50.9
Black American	103	26.8	28	32.6	131	27.9
Hispanic	78	20.3	13	15.1	9	19.4
American Indian	0	.0	1	1.2	1	.2
Oriental American	4	1.0	0	.0	4	.9
Immigrant Alien	4	1.0	0	.0	4	.9
Column Total	384	81.7[b]	86	18.3[b]	470	100.0[b]

Note. 149 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 8.068$, df = 5, p = .1525.

Term 76-2	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	207	57.7	32	50.0	239	56.5
Black American	87	24.2	17	26.6	104	24.6
Hispanic	63	17.5	15	23.4	78	18.4
Oriental American	1	.3	0	.0	1	.2
Immigrant Alien	1	.3	0	.0	1	.2
Column Total	359	84.9[b]	64	15.1[b]	423	100.0[b]

Note. 223 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 2.062$, df = 4, p = .7244.

Table 15 (continued)

Term 76-3	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	89	45.9	5	27.8	94	44.3
Black American	57	29.4	8	44.4	65	30.7
Hispanic	46	23.7	4	22.2	50	23.6
Oriental American	2	1.0	1	5.6	3	1.4
Column Total	194	91.5[b]	18	8.5[b]	212	100.0[b]

Note. 52 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 4.834$, df = 3, p = .1843.

Term 76-4	Grade Group					
	Completed		Withdrew		Row total	
Ethnicity	N	%[a]	N	%[a]	N	%[a]
White American	62	48.8	2	22.2	64	47.1
Black American	32	25.2	4	44.4	36	26.5
Hispanic	32	25.2	3	33.3	35	25.7
Oriental American	1	.8	0	.0	1	.7
Column Total	127	93.4[b]	9	6.6[b]	136	100.0[b]

Note. 19 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 2.727$, df = 3, p = .4357.

scores for the Reading 179 students. The grade-level equivalency scores were partitioned into three groups: 9.9 and below; 10.0 to 12.9; and 13.0 and above. The crosstabulations and statistical data are reported by academic term in Table 16.

Chi-square tests were performed for the Reading 179 students for each of the 12 terms during the three-year period beginning with the Fall 1974-1 term and ending with the Summer term, 1976-4. None of the tests yielded a significant chi-square value at the .05 level. Therefore, the null hypothesis was not rejected and it was concluded that completion or withdrawal from Reading 179 class was not significantly related to the pretest total grade-level equivalency scores.

A further inspection of the data shows that the proportion of students who completed the Reading 179 courses with letter grades of A, B, C, and D ranged from 70.4% in the 1974-2 term to 94.1% in the 1976-4 term, while students who withdrew from the course ranged from 5.9% in the 1976-4 term to 29.6% in the 1974-2 term.

Table 16

LSC Students Who Completed REA 179

and Those Who Withdrew from REA 179

Crosstabulated by Nelson-Denny Pretest

Total Grade-Level Equivalency Scores

Term 74-1	Grade Group					
Grade Level	Completed		Withdrew		Row total	
	N	%[a]	N	%[a]	N	%[a]
9.9 and below	109	33.5	40	38.1	149	34.7
10.0 to 12.9	107	32.9	31	29.5	138	32.1
13.0 and above	109	33.5	34	32.4	105	24.4
Column Total	325	75.6[b]	105	24.4[b]	430	100.0[b]

Note. 157 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .793$, $df = 2$, $p = .6726$.

Term 74-2	Grade Group					
Grade Level	Completed		Withdrew		Row total	
	N	%[a]	N	%[a]	N	%[a]
9.9 and below	68	24.9	40	34.8	108	27.8
10.0 to 12.9	104	38.1	33	28.7	137	35.3
13.0 and above	101	37.0	42	36.5	143	36.9
Column Total	273	70.4[b]	115	29.6[b]	388	100.0[b]

Note. 99 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 4.864$, $df = 2$, $p = .0879$.

Table 16 (continued)

Term 74-3	Grade Group					
	Completed		Withdrew		Row total	
Grade Level	N	%[a]	N	%[a]	N	%[a]
9.9 and below	34	25.0	6	27.3	40	25.3
10.0 to 12.9	28	20.6	4	18.2	32	20.3
13.0 and above	74	54.4	12	54.5	86	54.4
Column Total	136	86.1[b]	22	13.9[b]	158	100.0[b]

Note. 49 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .093$, df = 2, p = .9546.

Term 74-4	Grade Group					
	Completed		Withdrew		Row total	
Grade Level	N	%[a]	N	%[a]	N	%[a]
9.9 and below	40	26.3	8	34.8	48	27.4
10.0 to 12.9	37	24.3	4	17.4	41	23.4
13.0 and above	75	49.3	11	47.8	86	49.1
Column Total	152	86.9[b]	23	13.1[b]	175	100.0[b]

Note. 46 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 943$, df = 2, p = .6239.

Table 16 (continued)

Term 75-1	Grade Group					
Grade Level	Completed		Withdrew		Row total	
	N	%[a]	N	%[a]	N	%[a]
9.9 and below	119	33.1	29	44.6	148	34.9
10.0 to 12.9	104	29.0	16	24.6	120	28.3
13.0 and above	136	37.9	20	30.8	156	36.8
Column Total	359	84.7[b]	65	15.3[b]	424	100.0[b]

Note. 105 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 3.199$, df = 2, p = .2020.

Term 75-2	Grade Group					
Grade Level	Completed		Withdrew		Row total	
	N	%[a]	N	%[a]	N	%[a]
9.9 and below	104	33.5	22	44.9	126	35.1
10.0 to 12.9	83	26.8	11	22.4	94	26.2
13.0 and above	123	39.7	16	32.7	139	38.7
Column Total	310	86.4[b]	49	13.6[b]	359	100.0[b]

Note. 113 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 2.394$, df = 2, p = .3020.

Table 16 (continued)

Term 75-3	Grade Group					
Grade Level	Completed		Withdrew		Row total	
	N	%[a]	N	%[a]	N	%[a]
9.9 and below	57	33.9	5	23.8	62	32.8
10.0 to 12.9	48	28.6	5	23.8	53	28.0
13.0 and above	63	37.5	11	52.8	74	39.2
Column Total	168	88.9[b]	21	11.1[b]	182	100.0[b]

Note. 36 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 1.789$, df = 2, p = .4087

Term 75-4	Grade Group					
Grade Level	Completed		Withdrew		Row total	
	N	%[a]	N	%[a]	N	%[a]
9.9 and below	56	34.6	6	37.5	62	34.8
10.0 to 12.9	39	24.1	5	31.3	44	24.7
13.0 and above	67	41.4	5	31.3	72	40.4
Column Total	162	91.0[b]	16	9.0[b]	178	100.0[b]

Note. 24 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 707$, df = 2,, p = .7022.

Table 16 (continued)

Term 76-1	Grade Group					
	Completed		Withdrew		Row total	
Grade Level	N	%[a]	N	%[a]	N	%[a]
9.9 and below	151	38.0	29	46.8	180	39.2
10.0 to 12.9	111	28.0	17	27.4	128	27.9
13.0 and above	135	34.0	16	25.8	151	32.9
Column Total	397	86.5[b]	62	13.5[b]	459	100.0[b]

Note. 160 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 2.146$, df = 2, p = .3421.

Term 76-2	Grade Group					
	Completed		Withdrew		Row total	
Grade Level	N	%[a]	N	%[a]	N	%[a]
9.9 and below	123	34.3	19	38.0	142	34.7
10.0 to 12.9	104	39.0	15	30.0	119	29.1
13.0 and above	132	36.8	16	32.0	148	36.2
Column Total	359	87.8[b]	50	12.2[b]	409	100.0[b]

Note. 237 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = .468$, df = 2, p = .7912.

Table 16 (continued)

Term 76-3	Grade Group					
	Completed		Withdrew		Row total	
Grade Level	N	%[a]	N	%[a]	N	%[a]
9.9 and below	76	39.4	8	57.1	84	40.6
10.0 to 12.9	49	25.4	4	28.6	53	25.6
13.0 and above	68	35.2	2	14.3	70	33.8
Column Total	193	93.2[b]	14	6.8[b]	207	100.0[b]

Note. 57 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 2.761$, df = 2, p = .2515.

Term 76-4	Grade Group					
	Completed		Withdrew		Row total	
Grade Level	N	%[a]	N	%[a]	N	%
9.9 and below	46	36.2	4	50.0	50	37.0
10.0 to 12.9	40	31.5	3	37.5	43	31.9
13.0 and above	41	32.3	1	12.5	42	31.1
Column Total	127	94.1[b]	8	5.9[b]	135	100.0[b]

Note. 20 missing observations.

[a]Column percent.

[b]Row percent.

$\chi^2 = 1.418$, df = 2, p = .4922.

Sub-study 2 Based On Nelson-Denny Pre-Posttest Total Change Score Results

Beginning with the 1975-2 term, the posttest version, Form D, of the Nelson-Denny Reading Test was administered to all students enrolled in the Learning Support Center reading 179 courses. At this time, the research office began a systematic collection of posttest scores. The term change score refers to the difference between the Nelson-Denny pretest and posttest scores. The student population in this section of the report consists of reading 179 students who received A, B, C, D, and F letter grades.

Analysis of variance and orthogonal comparisons of ethnicity with Nelson-Denny pretest to posttest total change scores. The null hypothesis that there was no significant differences in the Nelson-Denny total change scores for the three major ethnic groups enrolled in the LSC reading 179 course was tested by a one-way analysis of variance. The criterion or dependent variable consisted of the Nelson-Denny test total change scores and the independent variable, ethnicity, included the three major groups--White Americans, Black Americans, and Hispanics. The F test was followed by orthogonal comparisons to determine if the differences between groups were significant. Homogeneity of variance was assumed for all of the orthogonal contrasts with the exception of the 1975-4, 1976-2, and 1976-3 terms where separate variance estimates were used to determine t values.

The F ratios, change score means, standard deviations, standard errors and results of t tests contrasts are shown in Table 17.

The F ratios for each of the 7 terms in the study were not significant. Therefore, the null hypothesis was not rejected and it was concluded that there was no significant difference among White Americans, Black Americans

Table 17

Analysis of Variance and Orthogonal Comparisons

of Ethnicity with Nelson-Denny Pretest-Posttest

Total Change Scores

Term 75-2

ANOVA - F ratio = 1.277*					t tests		
Groups	N	Change Score Means	Standard Deviation	Standard Error	Contrasts	t value[a]	Two-tailed Probability Level
Whites	143	4.3427	10.8141	.9043	White vs. Black	-1.116	.266
Blacks	41	6.4390	8.8911	1.3886	White vs. Hispanic	-1.360	.175
Hispanic	39	6.9487	11.4339	1.8309	Black vs. Hispanic	- .215	.830
Total	223	5.1839	10.6168	.7110			

[a] t value determined by pooled variance estimate.

* p = .2808.

Table 17 (continued)

Term 75-3

ANOVA - F ratio = .685*					t tests		
Groups	N	Change Score Means	Standard Deviation	Standard Error	Contrasts	t value[a]	Two-tailed Probability Level
Whites	57	2.3158	12.2782	1.6263	White vs. Black	.926	.357
Blacks	30	.0000	9.5050	1.7354	White vs. Hispanic	.928	.356
Hispanic	13	-.8462	8.5034	2.3584	Black vs. Hispanic	.230	.819
Total	100	1.2100	11.0547	1.1055			

[a] t value determined by pooled variance estimate.

* p = .5063.

Table 17 (continued)

Term 75-4

ANOVA - F ratio = .659*					t tests		
Groups	N	Change Score Means	Standard Deviation	Standard Error	Contrasts	t value[a]	Two-tailed Probability Level
Whites	59	4.9661	9.9671	1.2976	White vs. Black	.590	.562
Blacks	18	2.3889	17.7039	4.1728	White vs. Hispanic	-.648	.521
Hispanic	22	6.7727	11.5714	2.4670	Black vs. Hispanic	-.904	.374
Total							

[a] t value determined by separate variance estimate.

* p = .5196.

Table 17 (continued)

Term 76-1

ANOVA - F ratio = 1.187*					t tests		
Groups	N	Change Score Means	Standard Deviation	Standard Error	Contrasts	t value[a]	Two-tailed Probability Level
Whites	185	5.0216	13.4798	.9911	White vs. Black	-.657	.512
Blacks	97	6.0722	12.5434	1.2736	White vs. Hispanic	-.528	.127
Hispanic	70	7.7571	10.9245	1.3057	Black vs. Hispanic	-.842	.400
Total	352	5.8551	12.7611	.6802			

[a] t value determined by pooled variance estimate.

* p = .3062.

Table 17 (continued)

Term 76-2

ANOVA - F ratio = 1.194*					t tests		
Groups	N	Change Score Means	Standard Deviation	Standard Error	Contrasts	t value[a]	Two-tailed Probability Level
Whites	210	5.4619	14.9416	1.0311	White vs. Black	1.787	.075
Blacks	94	2.9468	9.2879	.9580	White vs. Hispanic	.313	.755
Hispanic	67	4.9104	11.7172	1.4315	Black vs. Hispanic	-1.140	.257
Total	371	4.7251	13.1681	.6837			

[a] t value determined by separate variance estimate.

* p = .3042.

Table 17 (continued)

Term 76-3

ANOVA - F ratio = .596*					t tests		
Groups	N	Change Score Means	Standard Deviation	Standard Error	Contrasts	t value[a]	Two-tailed Probability Level
Whites	84	-.7500	13.4798	1.4708	White vs. Black	- .503	.616
Blacks	57	.2807	10.7798	1.4278	White vs. Hispanic	-1.174	.243
Hispanic	46	1.5870	9.0960	1.3411	Black vs. Hispanic	- .667	.506
Total	187	.1390	11.7034	.8558			

[a] t value determined by separate variance estimate.

* p = .5521

Table 17 (continued)

Term 76-4

ANOVA - F ratio = .848*					t tests		
Groups	N	Change Score Means	Standard Deviation	Standard Error	Contrasts	t value[a]	Two-tailed Probability Level
Whites	61	3.8197	13.6644	1.7495	White vs. Black	- .686	.494
Blacks	32	5.7188	13.5747	2.3997	White vs. Hispanic	.804	.423
Hispanic	32	1.5938	9.3735	1.6570	Black vs. Hispanic	1.300	.196
Total	125	3.7360	12.6721	1.1334			

[a] t value determined by pooled variance estimate.

* p = .4307.

and Hispanics as measured by the Nelson-Denny pretest - posttest total change scores.

An inspection of the data in Table 17 shows that the change score means for the White Americans enrolled in reading 179 ranged from 5.4619 (1976-2) to -.7500 (1976-3 term). The Black Americans' mean change scores ranged from 6.4390 (1975-2) to .0000 (1975-3), and the Hispanics' mean change scores ranged from 7.751 (1976-1) to -.8462 (1975-3 term).

The null hypothesis that there was no significant difference in the mean change scores was tested by the t test which were performed on each of the following groups: White Americans contrasted with Black Americans, White Americans contrasted with Hispanics, and Black Americans with Hispanics. The contrasts were performed for each of the 7 terms. None of the contrasts showed a significant difference at the .05 level for a two-tailed test. The null hypothesis, therefore, was not rejected and it was concluded that there was not a significant difference in the Nelson-Denny total change scores for any of the three contrasted ethnic groups.

Reading 179 students t tests and pre- and posttest means for vocabulary, comprehension, and total scores. Beginning with the 1975-2 term both Nelson-Denny pretest and posttest scores were collected by the research office. To test the null hypothesis that there was no significant difference between the mean pretest and mean posttest scores of the student completing the LSC reading 179 courses, t tests were performed. The statistical data pertaining to these tests are reported by academic term in Table 18.

The data in Table 18 show that positive changes occured in all of the Nelson-Denny test components--vocabulary, comprehension and total scores--

for each of the 7 terms beginning with 1975-2 term and ending with the 1976-4 term. The changes were not significant in the 1975-3 and 1976-3 terms. The null hypothesis was rejected for the 1975-2, 1975-4, 1976-1 1976-2, and 1976-4 terms ($p \leq .02$) and it was concluded that the mean posttest scores were significantly higher than the mean pretest scores.

An inspection of the data shows that during this period the Nelson-Denny mean pretest vocabulary scores ranged from 25.67 (1976-1) to 28.89 (1975-4) and the mean posttest vocabulary scores ranged from 26.07 (1976-3) to 30.43 (1975-2). The mean pretest comprehension scores ranged from 31.86 (1976-3) to 37.41 (1975-4). The mean pretest total scores ranged from 57.62 (1976-1) to 61.42 (1975-2) and the mean posttest scores ranged from 57.94 (1976-3) to 67.80 (1975-4).

Table 18

LSC Reading Students' Nelson-Denny Pretest-Posttest Mean Scores and *t* Tests for Vocabulary, Comprehension and Total Scores

Term 75-2	Test Statistics							
Test Component	N	Mean Pretest	SD Pretest	Mean Post-Test	SD Post-Test	Difference Mean	*t* value[a]	Two-tailed Probability
Vocabulary	240	28.27	14.57	30.43	15.90	2.1625	5.15	.001
Comprehension	240	33.14	13.51	35.83	11.84	2.6875	4.90	.001
Total Score	240	61.42	25.75	66.27	25.53	4.8500	6.73	.001

[a] *df* = 239.

Term 75-3	Test Statistics							
Test Component	N	Mean Pretest	SD Pretest	Mean Post-Test	SD Post-Test	Difference Mean	*t* value[a]	Two-tailed Probability
Vocabulary	110	26.14	14.63	27.15	16.44	1.0091	1.43	.154
Comprehension	110	33.81	11.39	34.41	12.06	0.6000	.77	.444
Total Score	110	59.96	23.73	61.57	25.98	1.6091	1.46	.146

[a] *df* = 109.

Table 18 (continued)

Term 75-4	Test Statistics							
Test Component	N	Mean Pretest	SD Pretest	Mean Post-Test	SD Post-Test	Difference Mean	t value[a]	Two-tailed Probability
Vocabulary	110	28.89	14.70	30.39	16.77	1.5000	2.35	.021
Comprehension	110	34.19	12.93	37.41	10.86	3.2273	3.78	.001
Total Score	110	63.08	25.52	67.80	25.62	4.7273	4.25	.001

[a] df = 109.

Term 76-1	Test Statistics							
Test Component	N	Mean Pretest	SD Pretest	Mean Post-Test	SD Post-Test	Difference Mean	t value[a]	Two-tailed Probability
Vocabulary	373	25.67	15.22	28.31	16.71	2.6408	5.71	.001
Comprehension	373	32.09	12.50	34.82	10.69	2.7265	6.21	.001
Total Score	373	57.62	25.56	63.32	25.34	5.7024	8.79	.001

[a] df = 372.

Table 18 (continued)

Term 76-2	Test Statistics							
Test Component	N	Mean Pretest	SD Pretest	Mean Post-Test	SD Post-Test	Difference Mean	t value[a]	Two-tailed Probability
Vocabulary	379	26.86	16.80	28.78	17.72	1.9208	4.81	.001
Comprehension	379	33.07	12.43	35.78	11.78	2.7071	5.70	.001
Total Score	379	59.94	27.34	64.56	27.22	4.6280	6.85	.001

[a] df = 378.

Term 76-3	Test Statistics							
Test Component	N	Mean Pretest	SD Pretest	Mean Post-Test	SD Post-Test	Difference Mean	t value[a]	Two-tailed Probability
Vocabulary	191	25.83	16.36	26.07	17.93	0.2408	.50	.617
Comprehension	191	31.80	12.14	31.86	12.04	0.0681	.10	.917
Total Score	191	57.63	26.48	57.94	27.29	0.3089	.37	.715

[a] df = 190.

123

127

Table 18 (continued)

Term 76-4	Test Statistics							
Test Component	N	Mean Pretest	SD Pretest	Mean Post-Test	SD Post-Test	Difference Mean	t value[a]	Two-tailed Probability
Vocabulary	127	26.46	15.68	28.00	16.75	1.5354	2.50	.014
Comprehension	127	32.86	13.28	35.13	11.63	2.2677	2.92	.004
Total Score	127	59.33	26.78	63.13	26.25	3.8031	3.41	.001

[a] df = 128.

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Within the limits of the data in this study, the following conclusions, implications, and recommendations were reached:

1. Distribution Of LSC Students By Sex

The proportion of male students enrolled in the Learning Support Center has generally decreased and the proportion of female students has generally increased over the three-year period beginning with the 1974 through the 1976 academic years. However, the proportions do not greatly depart from a 50-50 balance. These comparative distributions which reflect semester-to-semester changes serve as baseline information for the LSC staff in developing a profile of LSC reading and English students.

2. Distribution Of The LSC Students By Age

There was a wide age distribution of students enrolled in the LSC reading and English Courses during the three-year period. The ages ranged from 15 and below to 70 and over with the mean ages ranging from 21.3 (1974-1) to 25.3 (1975-2). During 1974 through 1976 period, the 18, 19, 20, 21 and 22 year-old students constituted the largest overall proportions of LSC student population. The proportion of the 18 year-old students tended to decrease and the 20, 21 and 22 year-olds tended to increase. When the age distribution was combined and dichotomized at age 25, the data showed that one-fourth of the students enrolled in the reading and English courses were over 25 years old.

These findings imply that materials selected for use in the LSC must be designed to appeal to the interests of the mature student regardless of the achievement level of the student. It also implies that the in-

structors in the LSC must be aware of the age range of the students when selecting teaching strategies to be used in the Learning Support Center.

3. Distribution Of LSC Students by Enrollment Status

The students were classified into six enrollment groups: early admit, first-time-in college, transfer, continuing, former, and concurrently enrolled high school students.

Over the three-year period, the continuing students constituted about two-thirds of the LSC reading and English course population ranging on a term basis from 47.3% in 1974-1 to a high of 89.6% in 1975-3. The first-time-in-college students constituted the second largest group, with an overall average of 22.1% of this population. The 3-year trend showed a general decrease in first-time students and a general increase in continuing students. Each of the remaining four categories made up less than five percent of the enrollment groups.

These findings imply that as students continue in college they become more aware of their academic deficiencies and more responsive to the academic assistance offered in the Learning Support Center. It is recommended that a recruitment effort be made to attract first-time-in-college students to the LSC as soon as possible so they can benefit from this service early in their college experience.

4. Distribution Of LSC Students By Ethnicity

Ethnicity was divided into seven categories, with the three major categories being: White Americans, Black Americans and Hispanics. The White Americans, which was the largest proportions, ranged from 59.3% (1974-2) to 40.1% (1976-3) and reflected a decreasing trend over the

three-year period and the second largest proportion, the Black Americans, ranged from 14.5% (1974-1) to 27.5% (1976-4), and showed an increasing trend during this period. The third largest category, the Hispanics, have slightly increased over the most recent four-term period (1976-1 to 1976-4).

These findings imply that materials selected for the LSC and the staff should be multi-cultural.

5. Distribution Of LSC Students By Nelson-Denny Pretest Grade Level Scores

The Nelson-Denny pretest score was collapsed into three grade levels: 9.9 and below, 10.0 to 12.9, and 13.0 and above. The proportion of students in the 9.9 and below category has slightly increased in the 1976 academic year and the proportion of students in the 13.0 and above category has slightly decreased in the 1976 academic year when compared with the two previous years. When the 10.0 to 12.9 category was combined with the 13.0 category, almost two-thirds of the LSC students scored at the 10.0 grade level and above.

These findings imply that the LSC has attracted a heterogeneous group of students and has reached its goal of being a developmental program rather than a remedial program. It also implies the need for multi-level materials in the LSC. It is recommended that a special recruitment program be initiated to attract students reading below the tenth grade level stressing the individuality of the basic skills program in the LSC. It is this group of students who usually have had academic difficulty in the past and may be fearful or indifferent to enrolling in "just another" program.

6. Distribution Of LSC Students By Nelson-Denny Pretest Mean Scores

The mean pretest vocabulary scores have ranged from a high of 30.4 (1974-3) to a low of 24.3 (1976-1) and show a general decrease in the 1976

academic year from the previous two years. The mean comprehension scores have ranged from 28.6 (1974-2) to 33.3 (1974-4) and has shown relatively little change over the three-year period while the total mean total scores have ranged from 55.2 (1976-1) to 64.3 (1974-4) and indicate a decline in the 1976 academic year. The maximum scores for the test components are: vocabulary 100, comprehension 72, and total score 172.

These findings imply that the staff should be sensitive to this vocabulary deficiency and aware that it has become more acute over a three-year period of time.

7. Ethnicity By Nelson-Denny Pretest Grade-Level Equivalency Scores

The chi-square tests were performed to test the null hypothesis that ethnicity was independent of the Nelson-Denny pretest grade-level equivalency scores for each of the 12 terms in the three-year period. All tests showed a significant relationship at less than the .001 level. The null hypothesis was rejected and it was concluded that the two variables were related. Generally, a larger proportion of the White American students scored at the 13.0 grade level and a smaller proportion of Whites scores at the 9.9 grade level and below and a smaller proportion of Black American students scored at the 9.9 grade level and below and a smaller proportion at the 13.0 grade level. The Hispanics followed the pattern of the Blacks with a larger proportion in the high category. However, the percentage of Hispanics in the low category was not as large as the percentage of Blacks in this category.

These findings imply that the Black student should be made aware

of this reading deficiency, regardless of the reason and be encouraged to register for assistance in the Learning Support Center. It also implies that the Hispanic student should be made aware of this reading deficiency, possibly because of a language problem and be encouraged to register for assistance in the Learning Support Center. Again, the implication is that materials used in the LSC must be multi-cultural. It is recommended that a special recruitment effort be made to acquaint the Black and Hispanic students reading below the tenth grade level with the advantages of the program in the LSC such as individualization, self-paced progression, variable credit and non-scheduled learning. Although these students were told about these advantages at the time of testing, they may not have understood them and a second contact with this target population should be made.

8. Analysis Of Variance And Orthogonal Comparisons Of Ethnicity With Nelson-Denny Pretest Total Scores

A one-way analysis of variance was performed on the data for each of the 12 terms and it was concluded that there was a significant difference at less than the .01 level among each of the three major ethnic groups as measured by the mean Nelson-Denny pretest total scores. Contrasts were performed each term on the three major groups: White Americans with Black Americans, White Americans with Hispanics, and Black Americans with Hispanics.

The mean total pretest scores for White Americans were significantly higher than for Black Americans ($p < .001$). The White Americans scored significantly higher ($p < .001$) than the Hispanics, and the Black Americans scored significantly lower ($p < .03$) than the Hispanics.

These findings imply that the LSC Staff should be aware of the reading deficiency as evidenced by a variety of cultural backgrounds.

9. Correlation Of LSC And Non-LSC Cumulative Grade Point Averages With The Nelson-Denny Pretest Vocabulary, Comprehension, and Total Scores For All Students Who Have Earned 12 or More Credits

Pearson correlation coefficients were computed for the 1975 and 1976 terms to test the null hypothesis that there was no relationship between cumulative grade point averages and Nelson-Denny pretest vocabulary comprehension and total scores. All of the components of the test showed significant relationships at the .001 level. Although the coefficients were low (.2285 to .4689), the highest correlation showed that Nelson-Denny pretests scores accounted for as much as 22% of the common factor variance shared between the two variables.

These findings imply that the Nelson-Denny test scores have some predictive validity for subsequent grade point averages. Therefore, it is important that a more intensive effort be made to enroll students in need of basic skills as soon as possible in order to help them achieve academic success in mainstream classes.

10. Crosstabulation Of LSC Reading Grades With Pretest Grade-Level Equivalency Scores

Chi-square tests were performed on the LSC data for each term to test the null hypothesis that reading grades were independent of Nelson-Denny pretest grade-level equivalency scores. Nine of the twelve terms showed a significant relationship at the .02 level or less. Therefore, it was concluded that the two variables were related.

Generally, a larger proportion of "A" reading grades were awarded to students scoring at the 10.0 grade level and above. However, when grades for the 12 terms were combined, 27%, or close to one-third of the "A" grades were awarded to students who scored at the 9.9 and below grade level. The combined data also showed that 45.9% of all reading grades awarded during the three-year period were "A"s.

Generally, a larger proportion of "C", "D", and "F" grades were awarded to the 9.9 and below category than to the 10.0 and above categories and less than one-half of the "B" and incomplete grades were awarded to the 9.9 and below category. About one-third of the withdrawals from the course grades and withdrawal from college grades were assigned to the 9.9 and below category. Over the three-year period, the total withdrawal from the college grades represented less than 4% of the total reading grades awarded.

These findings imply that the staff of the Learning Support Center be alerted to the fact that if the reading program in the LSC is totally individualized, all students have an equal opportunity for a final grade of "A" regardless of their pretest score on the Nelson-Denny Reading Test. The staff needs to be aware of the fact that students below 10.0 need additional assistance and encouragement to get the most out of the program offered by the Learning Support Center. It is recommended that a special effort be made to ascertain why students do not complete the course or withdraw from the reading course.

11. Crosstabulation Of LSC English Grades With Pretest Grade-Level Equivalency Scores

Chi-square tests were performed on the LSC data for each term to test the null hypothesis that English grades were independent of Nelson-Denny pretest grade-level equivalency scores. Seven of the twelve terms showed a significant relationship at less than the .05 level. Therefore, it was concluded that the two variables were related.

Generally, a larger proportion of "A" grades were awarded to the students scoring at the 10.0 grade level and above. However, when all 12 terms were combined, 32% of the "A" English grades were awarded to students who scored at the 9.9 and below level. The combined data also showed that 37.7% of all English grades awarded during the three-year period were "A"s.

Generally, a larger proportion of "B", "C", "D", "F" and incomplete grades were awarded to the 9.9 and below category than were awarded to the 10.0 and above categories. However, slightly less than one-half of the withdrawals from the English course and withdrawals from college were assigned to the 9.9 and below category. Over the three-year period, the total withdrawal from college grades represented less than 3% of the total English grades awarded.

These findings imply that the staff of the Learning Support Center be alerted to the fact that, if the English program in the LSC is totally individualized, all students have an equal opportunity for a final grade of "A" regardless of their pretest score on the Nelson-Denny Reading Test. The staff needs to be aware that students below 10.0 need additional assistance and encouragement to get the most out of the

program offered by the Learning Support Center. It is recommended that a special effort be made to ascertain why students withdraw from the program or fail to complete the course within a semester.

12. Reading 179 Grade Group (Completed-Withdrew) Crosstabulated By Sex

Chi-square tests were performed to test the null hypothesis that completion or withdrawal from the reading course was independent of sex. Only one of the 12 terms showed a significant relationship and it was generally concluded that sex was not a factor in determining whether a student completed or withdrew from the reading course. This finding would imply that the LSC staff applied appropriate techniques and materials in relating to sexual differences and were successful in minimizing the attrition rate in the reading courses.

13. Reading 179 Grade Group (Completed-Withdrew) Crosstabulated By Age

Chi-square tests were performed to test the null hypothesis that completion or withdrawal from the reading course was independent of age. None of the 12 terms showed a significant relationship and it was concluded that age was not a factor in determining whether a student completed or withdrew from the reading course. This finding would imply that the LSC staff applied appropriate techniques in relating to a wide age range of students and were successful in minimizing the attrition rate in the reading courses.

14. Reading 179 Grade Group (Completed-Withdrew) Crosstabulated By Enrollment Status

Chi-square tests were performed to test the null hypothesis that

completion or withdrawal from the reading course was independent of enrollment status. Only two of the twelve terms showed a significant relationship at the .05 level or less. During these two terms a higher proportion of withdrawals from the course were classified as first-time-in-college students and a higher proportion of students who completed the course were classified as continuing students.

Generally, it was concluded that enrollment status was not a factor incompletion or withdrawing from the reading course. This finding would indicate that the LSC staff should be sensitive to factors that may cause first-time-in-college students to withdraw from the course. However, the LSC staff generally have been successful in minimizing the attrition rate of students enrolled in the reading course regardless of enrollment classification.

15. Reading 179 Grade Group (Completed-Withdrew) Crosstabulated By Ethnicity

Chi-square tests were performed to test the null hypothesis that completion or withdrawal from the reading courses was independent of ethnic classification. None of the 12 terms showed a significant relationship and it was concluded that ethnic classification was not a factor in determining whether a student completed or withdrew from the reading course. This finding would indicate that the LSC staff was cognizant of ethnic differences in their approach to teaching reading.

16. Reading 179 Grade Group (Completed-Withdrew) Crosstabulated By Pretest Grade-Level Equivalency Scores.

Chi-square tests were performed to test the null hypothesis that

completion or withdrawal from the reading course was independent of the Nelson-Denny pretest grade-level equivalency scores. None of the 12 terms showed a significant relationship. Therefore, it was concluded that the pretest grade-level score was not a factor in determining whether a student completed or withdrew from the reading course. This finding would indicate that the LSC staff applied appropriate techniques in relating to a broad range of reading abilities.

17. Analysis Of Variance And Orthogonal Comparisons Of Ethnicity With Nelson-Denny Pretest To Posttest Total Change Scores

A one-way analysis of variance was performed on the data for the seven terms for which pre-to-posttest change scores were available and it was concluded that there was no significant differences among White Americans, Black Americans and Hispanics as measured by the Nelson-Denny Reading Test total change scores.

Contrasts were performed for each term on the three major ethnic groups: White Americans with Black Americans, White Americans with Hispanics, and Black Americans with Hispanics. None of the contrasts showed a significant difference in mean change scores at the .05 level for a two-tailed t test.

These findings would indicate that the LSC staff were successful in their approach to teaching reading to students with diverse ethnic backgrounds. This is a particularly important finding since the results of the pretests showed a significant difference among the three contrasts.

18. Reading 179 Students t Tests and Pre-and Posttest Means For Vocabulary, Comprehension And Total Scores

The t test was used to test the null hypothesis that there was no significant difference between the Nelson-Denny mean pretest and mean posttest scores for students enrolled in the reading 179 courses. The data for performing these tests were available for seven terms for students who received "A", "B", "C", "D" and "F" grades in the course.

Five of the seven t tests showed a significant difference at the .02 level or less. Therefore, it was concluded that the mean posttest scores for vocabulary, comprehension and total score were significantly higher than the corresponding mean pretest scores. An inspection of the data for the two terms without significant differences showed positive changes.

These findings indicate that the LSC staff has been successful in improving the reading scores as measured by the Nelson-Denny Reading Test for students who enrolled and received "A", "B", "C", "D", and "F" letter grades in the reading 179 courses.

CONCLUSIONS

This study shows that the Learning Support Center is meeting the basic skill needs of students regardless of sex, age, ethnicity or reading level.

A special effort should be made to recruit students scoring below the tenth grade level on the Nelson-Denny Reading Test, Form C. It is these students who most need the academic services offered by the lab in order to successfully complete mainstream classes.

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